Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

SD11
.1527

United States
Department of
Agriculture

Forest Service

Alaska Region
Report
Number 100

The ALP 1981-86 Timber Sale Operating Plan

Final Environmental Impact Statement for the Chatham and Stikine Areas

Part 1

FINAL ENVIRONMENTAL IMPACT STATEMENT

Alaska Lumber and Pulp Company
Timber Sale Plan for the
1981-86 Operating Period
Southeast Alaska

Lead Agency	U.S. Department of Agriculture Forest Service Washington, D.C. 20250
Responsible Official:	R. Max Peterson Chief, Forest Service U.S. Department of Agriculture Washington, D.C. 20250
For Further Information, contact:	William P. Gee Forest Supervisor, Chatham Area Tongass National Forest P.O. Box 1980 Sitka, Alaska 99835 Telephone: 907-747-6671 and John F. Butruille Forest Supervisor, Stikine Area Tongass National Forest P.O. Box 309 Petersburg, Alaska 99833 Telephone: 907-772-3341

ABSTRACT

This final Environmental Impact Statement describes a recommended plan for the harvest of up to 525 MMbm of timber from the Chatham and Stikine Areas of the Tongass National Forest under the long term timber sale contract with Alaska Lumber and Pulp Company. This plan is in conformance with allocation and management direction of the Tongass Land Management Plan. The operating period for proposed harvest is 1981-86. This statement also describes eight alternatives from which the Preferred Alternative was developed. The process used to develop these alternatives is also discussed.

Contents

v SUMMARY
I. INTRODUCTION
2 Nature of Decision to be Made
2 Background Information
5 Major Issues and Concerns
6 Capability and Suitability
6 Federal Permits or Licenses Required

II. AFFECTED ENVIRONMENT
8 Current Conditions
8 Physical Factors
  Climate
  Soils
  Visual Resource
  Cultural Resources
  Wilderness
  Water Resources
  Air Quality
  Fire
  Water Use and Land Ownership
  Transportation
12 Biological Factors
  Vegetation
  Wildlife
  Fish
13 Social Factors
  Recreation Resources
  Affected Communities
17 Expected Future Conditions
III. PLANNING ALTERNATIVES AND RECOMMENDATIONS
20 Evaluation Criteria
21 Alternatives Considered
  Planning Process
  Areas Considered
  Description of Alternatives
28 Effects of Implementing
28 Effects Similar to all Alternatives
32 Effects of Alternatives
    Alternative 1
    Alternative 2
    Alternative 3
    Alternative 4
    Alternative 5
    Alternative 6
    Alternative 7
    Alternative 8
    Preferred Alternative
42 Evaluation of Alternatives
44 Preferred Alternative
  Development
  Harvest of Marginal Timber
  Economic Analysis
  Cutting Unit Size
  Consistency with CZMP
  Transportation
  Description
  Effects of Implementing Preferred Alternative
60 Monitoring Requirements
IV. CONSULTATION WITH OTHERS
64 Public Involvement Plan
64 Inform and Involve Activities
66 Planning Response to Public Comment
V. APPENDIX
70 Planning Process Documentation
  TLMP Direction for Management
  Interdisciplinary Team Membership
72 Basis of Evaluation: Regulations and Inventory Method
76 Socioeconomic Assessment of Hoonah
77 Summary of Port Camden LTS
80 Glossary
87 Sources Cited
93 Sample field management form
96 Public Comments and Forest Service Response

310 VI. Index

LIST OF TABLES

TABLE
#

12 1. Operable commercial forest land in 1981-86 study area.
12 2. Special or unique wildlife areas.
24 3. Alternative 1 data
25 4. Alternative 2 data
25 5. Alternative 3 data
26 6. Alternative 4 data
26 7. Alternative 5 data
26 8. Alternative 6 data
27 9. Alternative 7 data
27 10. Alternative 8 data
28 11. Preferred Alternative data
32 12. Archeological survey requirements
33 13. Fisheries data per watershed, Alternative 1
36 14. Fisheries data per watershed, Alternative 2
36 15. Fisheries data per watershed, Alternative 3
42 16. Fisheries data per watershed, Alternative 8
43 17. Additional investment costs for each alternative
46 18. Serial Sequence of Timber Harvest by Area
46 19. Partial Unit deferrals
47 20. Commercial forest land in preferred alternative
48 21. Proposed management activities accessed by road systems
54 22. Comparison of preferred alternative with other alternatives
57 23. Comparison of fisheries data on Chatham Area
58 24. Fisheries data, preferred alternative (Chatham)
59 25A. Inventoried visual sensitivity ratings
59 25B. Adopted visual sensitivity ratings, Chatham Area
60 26. Mitigating measures associated with adopted Visual Quality Objectives
78 27. Estimated employment in Hoonah attributable to 10-year harvest plan

LIST OF FIGURES

FIGURE
#

4 1. Land base available to meet long-term contract
4 2. Volume included in the 5-year plan
22 3. Stikine planning process

Summary

This is a final environmental statement published by the U.S. Department of Agriculture's Forest Service. It describes an administrative type of action.

The purpose of this statement is to display the development of a recommended action plan for the harvesting of up to 525 million board measure (MMbm) of timber from Kuiu, Baranof, Chichagof and associated islands of the Tongass National Forest in Alaska during the 1981-86 operating period. Timber harvesting and related activities are authorized by an existing long-term timber sale contract between USDA Forest Service and Alaska Lumber and Pulp Company, Inc. Major issues are addressed and incorporated in developing the recommended plan. Land allocations, were made in the Tongass Land Management Plan. These allocations were not reconsidered. Issues pertain to the management of timber, fish, wildlife, soil, water, cultural, visual and recreational resources, and to socioeconomic needs.

Major Conclusions

- TLMP provides allocative direction.
- The Southeast Alaska Area Guide policies are applicable.
- LUD I and II areas will continue to be unavailable for timber harvest.
- LUD III and IV areas will be available for timber harvest for the forseeable future.
- The ALP long-term contract is valid and the Forest Service is obligated to provide timber volume to meet the contract requirements.
- Logical extensions of primary road systems are desirable.
- Provision for future management of all resources is important.
- Skyline yarding systems are necessary to meet volume requirements and resource protection prescriptions.

Areas of Controversy

- Retention of old growth, uneven aged timber stands considered by some to be a non-renewable resource.
- Validity of the long-term contract in view of environmental legislation and land withdrawals.
- Development in the Kadashan Area.
- Development in the Port Camden Area.
- Development of log transfer sites, particularly in Port Camden.

Issues to be Resolved

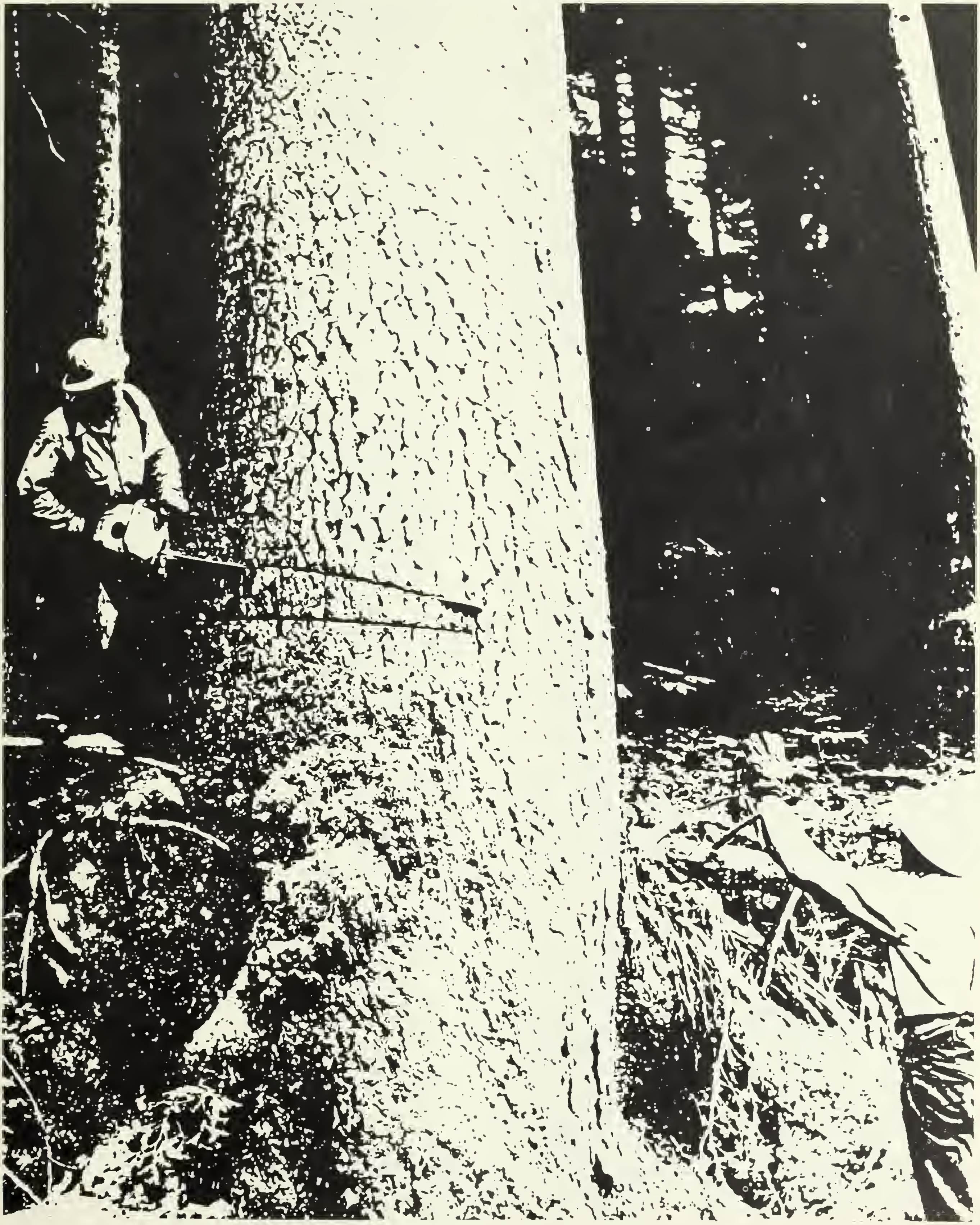
- Protection or enhancement of all natural resources within the timber harvest areas.
- Meeting the social and economic needs of area communities.
- The planning process and role of the public in reaching decisions.
- Selection of harvest areas, harvest methods and locations of related development, e.g., roads, log transfer sites, and camps.

In addition to a "No Action" Alternative, eight alternatives were developed for timber harvest in eight Management Areas:

> Alternatives 1-3: Developed by the Chatham Area Interdisciplinary Team (IDT), these alternatives provide for harvest, with varying degrees of resource protection and levels of public investment, of up to 395 MMbm. Management Areas proposed for entry are: Whitestone Harbor, Freshwater Bay, Corner Bay, Kelp Bay, Crab Bay, Tenakee Inlet, and Kadashan.
>
> Alternatives 4-7: Developed by the Stikine Area Interdisciplinary Team, these alternatives provide for harvest of up to 130 MMbm, with varying patterns of cutting units, roads, and related development. Harvest is proposed within the East Kuiu Management Area.
>
> Alternative 8: Developed by Alaska Lumber and Pulp, this alternative provides for harvest of 554 MMbm from Whitestone Harbor, Freshwater Bay, Tenakee Inlet, Kadashan, Corner Bay, and East Kuiu Management Areas.

The Preferred Alternative was derived by the two IDTs by combining elements of these alternatives on an area-by-area basis to provide up to the 525 MMbm required for the operating period. This process (described fully in Section III) permitted maximum flexibility through which interdisciplinary planning could achieve a blend of economic, environmental, and social management objectives. Description of the Preferred Alternative discusses those elements of the Alternatives which were selected to develop a harvest plan. Subsequent to the publication of the draft EIS, update information became available indicating higher average volume per acre than was used in the preliminary estimate. A system of prioritization was developed to permit an orderly development of proposed harvest units and associated facilities that would be responsive to environmental, logistical and economic issues while meeting contract obligations.

I. Introduction to the Proposals and Related Issues



Nature of Decision to be Made

The Timber Sale Contract between Alaska Lumber and Pulp Co. and the U.S. Forest Service (ALP Long Term Contract #12-11-010-1545) stipulates that operating plans be developed periodically for designated 5-year periods, to select harvest units and specified roads and to redetermine a fair market value for timber to be harvested. The process leads to a contract level decision specific to volume of timber required, and where and under what conditions timber will be harvested in the 1981-86 operating plan period.

The following subsections provide the background information essential to understanding the contract, the relationships between implementing the project and land management planning, and major issues and concerns identified through the "scoping" process.

Background Information

A. Long Term Timber Sale Contract

The fifty-year contract with Alaska Lumber and Pulp Company (ALP) is one of three long-term timber sale contracts on the Tongass National Forest. The contract was initiated on January 25, 1956. The effective dates of the contract are July 1, 1961, through June 30, 2011.

The primary sale area includes Baranof Island and portions of Chichagof Island. Two contingency areas, Kuiu Island and northeast Chichagof, are provided.

The contingency areas are available for timber harvest if sufficient volume to meet the terms of the contract is not available from the primary areas. In 1973, timber harvest was begun in the contingency areas as a result of the decision to suspend operations on West Chichagof-Yakobi Islands. Subsequently, the Tongass Land Management Plan proposed roadless management for portions of the sale area, including recommended wilderness classification for West Chichagof-Yakobi and for south Baranof Island. Consequently, by agreement between the Forest Service and the purchaser, logging operations are proposed to continue in the contingency areas as well as in those portions of the primary sale area allocated for developmental activities (Land Use Designation III or IV) by the Tongass Land Management Plan.

B. 1981-86 5-year Operating Period Plan:

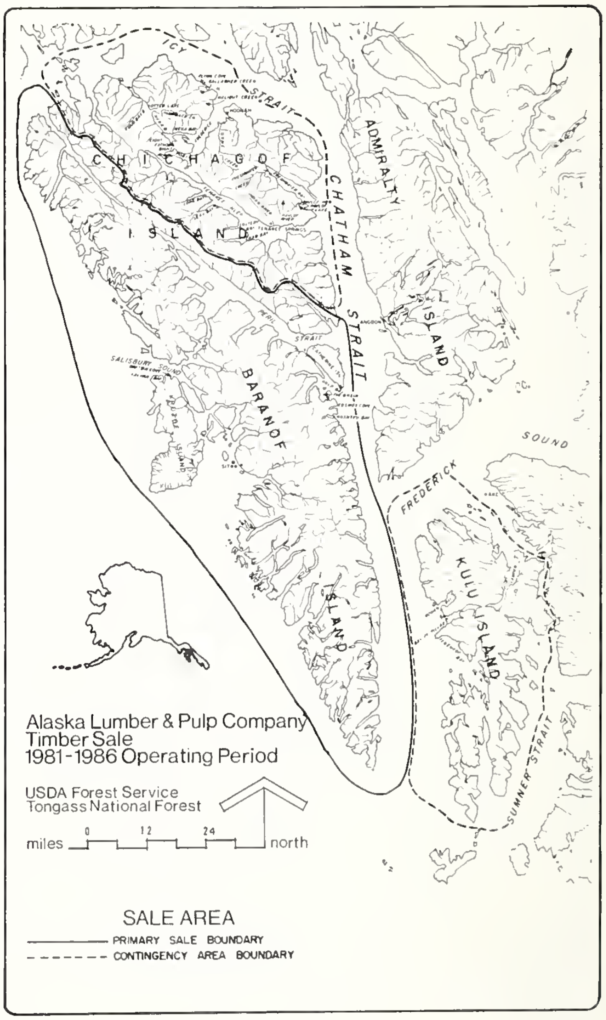
(1) Section 5b of the ALP contract specifies that:

> After an initial period ending June 30, 1971, operations under this contract shall be divided into operating periods of five (5) years beginning July 1, 1971, and at five-year intervals thereafter: Provided, that the five-year operating periods will be changed to begin on January 1, 1981. For each operating period, logging units will be selected within the area included in this contract, main roads will be specified, stumpage rates will be redetermined in accordance with Section 2d, and modification of this contract in accordance with Section 2f may be made, all in accordance with the terms and conditions herein stated.

One objective of the planning process documented in this environmental statement is to meet this requirement of the contract.

(2) Actions to be taken under this proposal are regulated by more than 140 Federal laws defining Forest Service authorities. 1/ A second objective of this study is to evaluate and to prescribe management principles as necessary to meet these laws.

(3) Management of public lands is intended, as well, to address and to resolve the concerns of the public to the greatest extent possible. Since some of the areas proposed for harvest are adjacent to lands selected by Native village and regional corporations and by the State of Alaska, this planning objective has assumed a major role in the 1981-86 study. Some areas have well-established traditional uses by regional populations. Other areas offer potential for economic stability to



1/ The Southeast Alaska Area Guide discusses the management requirements of the major laws which direct Forest Service activities.

adjacent communities. This environmental statement documents steps taken to meet the objective of close cooperative planning with the public.

C. Relationship to Other Land Planning Processes

In addition to national planning direction, as established by the Renewable Resources Planning Act (RPA) and other major legislation, two regional planning documents are of major importance to the 1981-86 study process. These are the Southeast Alaska Area Guide and the Tongass Land Management Plan.

Southeast Alaska Area Guide. The Guide was published in April, 1977, as a two-part document. Part A provides planning and management direction for the Tongass. Part B was a draft environmental statement on proposed resource allocation--a study which was finalized through the Tongass Land Management Plan.

At the time the Guide was published, it was agreed that its policies would be field tested for one year and the Guide subsequently revised to reflect any adjustments necessary to meet field conditions. This update has been delayed while regulations in response to the National Forest Management Act were developed. These regulations now direct that a Regional Plan be developed to provide resource management policies and guidelines. This Regional Plan is scheduled for completion during 1980 and will constitute the Area Guide update.

The 1981-36 ALP study has been conducted within direction of the Area Guide, including:

* Direction for agency planning such as interdisciplinary study, public involvement, and coordinated interagency planning.

* Assumptions, issues, goals, and policies for management of each of the resources, including soil, water, fish, wildlife, estuaries and wetlands, timber, minerals and fossil fuels, recreation, wilderness, and cultural resources.

* Assumptions, issues, goals, and policies for administrative and support activities on the Tongass, including transportation planning; land occupancy and ownership; forest insect and disease management and pesticide use; and public safety and protection.

Tongass Land Management Plan. The Tongass Land Management Plan (TLMP) became effective April 15, 1979. This plan responded to national direction that forest plans be developed to provide comprehensive management over an extended time period. TLMP establishes multiple use allocation for the Tongass National Forest for the next 10 years.

Development of the 1981-86 operating plan was conducted within the constraints of Tongass Land Management Plan (TLMP) allocation as follows:

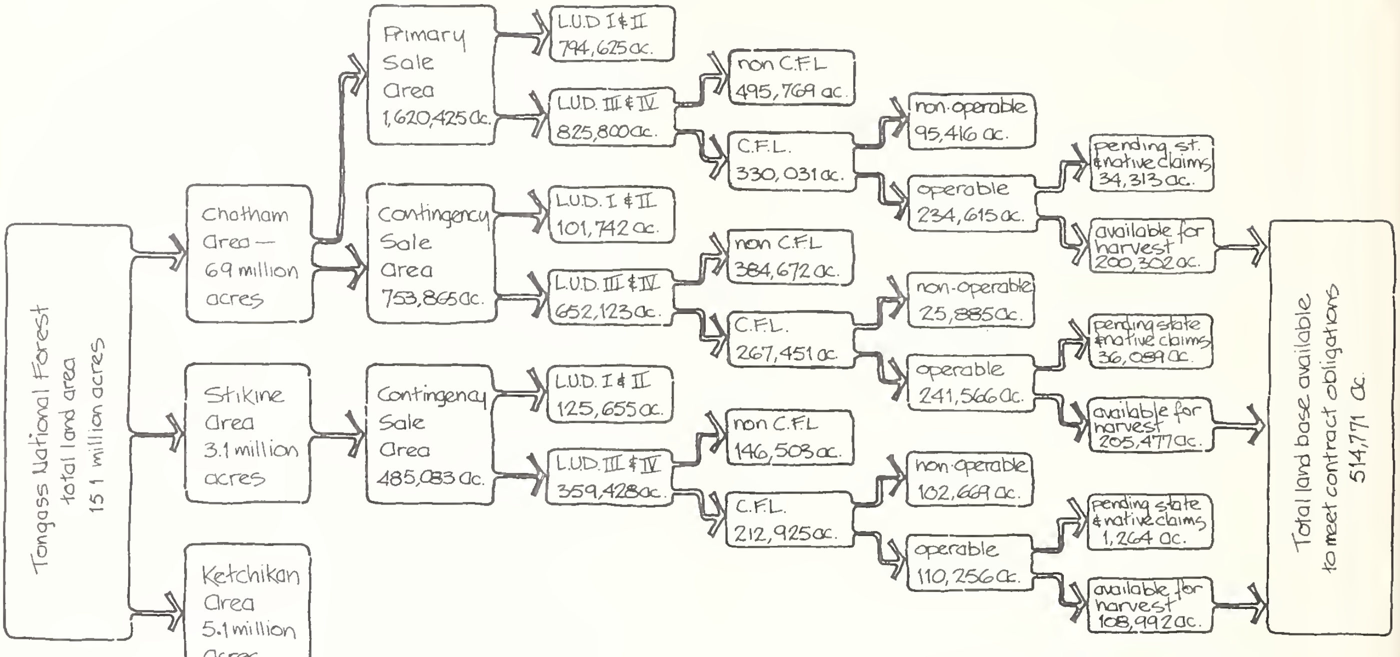
The Tongass National Forest includes 15.1 million acres. Of this total, 6.9 million acres are included on the Chatham Area and 3.1 on the Stikine Area. Of these total areas, TLMP allocated 60 percent of the Chatham to Land Use Designations I and II, and 37 percent of the Stikine to Land Use Designation I and II. These designations preclude timber harvest.

The remaining land base (LUD III and IV) was further reduced through withdrawals by the Secretary of Agriculture; through pending land selection by the State of Alaska and by Native corporations under the Alaska Native Claims Settlement Act. These reductions total 666,688 acres on the Chatham and 169,541 on the Stikine.

Of the 1,770,554 acres of operable Commercial Forest Land on the Chatham and Stikine, 949,230 acres are allocated to LUD III and IV and are available presently for harvest consideration, although only a portion is within the ALP sale area. Therefore, alternatives and the recommended action were developed through examination of a land base limited by land allocation, and State and Native land claims. Physical and environmental constraints also limit the land base.

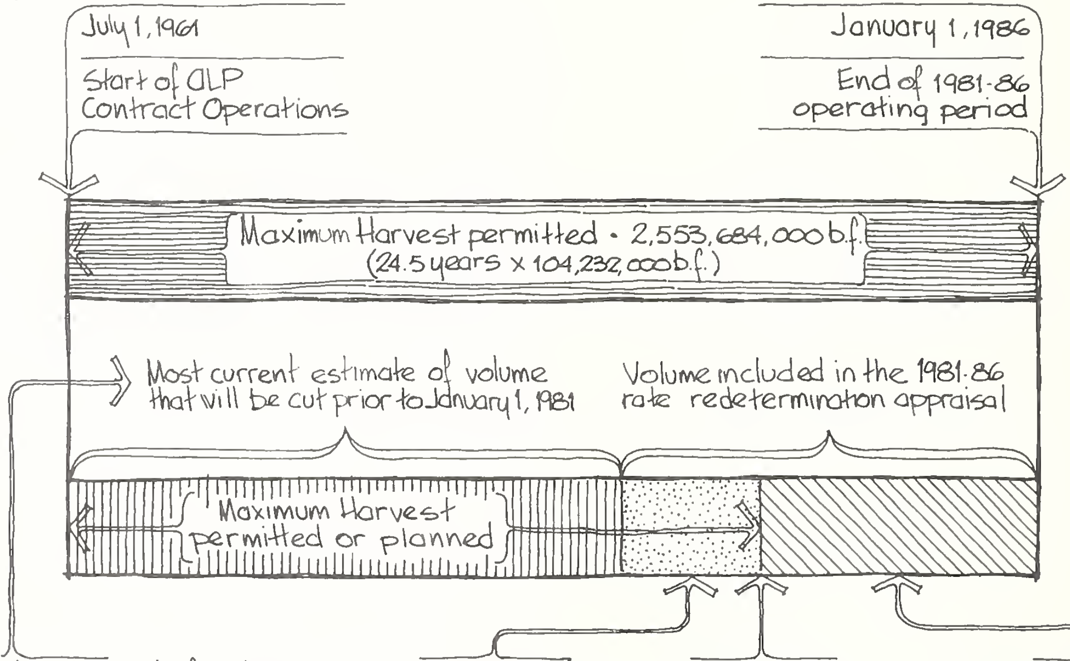
Figure 1 illustrates the land base available to meet contract obligations.

Figure 1: Land Base Available to Meet Long-Term Contract


Tongass National Forest total land area 15.1 million acres
Chatham Area — 6.9 million acres
Stikine Area 3.1 million acres
Ketchikan Area 5.1 million Acres
Primary Sale Area 1,620,425 ac.
Contingency Sale Area 753,865 ac.
Contingency Sale Area 485,083 ac.
L.U.D. I & II 794,625 ac.
L.U.D. III & IV 825,800 ac.
L.U.D. I & II 101,742 ac.
L.U.D. III & IV 652,123 ac.
L.U.D. I & II 125,655 ac.
L.U.D. III & IV 359,428 ac.
non C.F.L. 495,769 ac.
C.F.L. 330,031 ac.
non C.F.L. 384,672 ac.
C.F.L. 267,451 ac.
non C.F.L. 146,503 ac.
C.F.L. 212,925 ac.
non-operable 95,416 ac.
operable 234,615 ac.
non-operable 25,885 ac.
operable 241,566 ac.
non-operable 102,669 ac.
operable 110,256 ac.
pending st. & native claims 34,313 ac.
available for harvest 200,302 ac.
pending state & native claims 36,089 ac.
available for harvest 205,477 ac.
pending state & native claims 1,264 ac.
available for harvest 108,992 ac.
Total land base available to meet contract obligations 514,771 ac.

Note: acreage data from Tongass Land Management Plan (TLMP)

Figure 2: Volume included in 5 year plan.


July 1, 1961
Start of ALP Contract Operations
January 1, 1986
End of 1981-86 operating period
Maximum Harvest permitted - 2,553,684,000 b.f.
(24.5 years x 104,232,000 b.f.)
Most current estimate of volume that will be cut prior to January 1, 1981
Volume included in the 1981-86 rate redetermination appraisal
Maximum Harvest permitted or planned

Estimates are made for planning purposes & later for rate redetermination appraisal.
The closer to the end of the operating period the estimate is made, the more valid it becomes.

Volume planned for harvest prior to the end of 1976-81 operating period but not yet harvested.
This volume will probably be harvested during the 1981-86 operating period & is termed carry over.
This volume is not subject to an EIS.

January 1, 1981
End of 1976-81 operating period

New volume planned for harvest during the 1981-86 operating period.
This volume is subject to an E.I.S.

The 1981-86 ALP study has been conducted within direction of TLMP, as follows:

* Land Use Designations (LUDs) for all land units within the ALP sale area have been recognized. Areas recommended for 1981-86 harvest are allocated as LUD III or LUD IV, both permitting timber harvest and roads. Management direction provides necessary protection for the resource values which these designations represent.

* Wilderness recommendations for portions of the ALP primary sale area and roadless management (LUD II) allocation in other areas have been recoginized This necessitates continuing use of contingency sale areas on northeast Chichagof, Kuiu and associated islands.

* Extensive resource inventory data, socioeconomic information, and public comment have been recognized. Assumptions, assessments, and conclusions reached by the team preparing the 1981-86 ALP operating plan are related closely to data presented in the TLMP Task Force Working Reports and final environmental statement.

* Planning has been conducted within established management areas. These clusters of adjacent land units (Value Comparison Units) with similar allocation and management emphasis promote planning for all resources over time.

The 1981-86 study includes seven management areas on the Chatham Administrative Area and one management area on the Stikine portion of the Tongass. The decision reached in this final EIS for the 1981-86 operating plan will be used to improve the Tongass Land Management Plan for those management areas affected. This will include refinements and additions to the management emphasis statement, output targets, and added standards and guidelines to be followed (see "Appendix" for sample TLMP management statements).

Contract Volume Requirements

The total timber included in the ALP long-term timber sale contract is 4,494,700,000 board feet. The cutting schedule in the contract allows ALP to annually harvest up to a total volume that does not exceed the accumulated average of 104,232,000 board feet per year beginning July 1, 1961. The total timber that may be harvested prior to January 1, 1986, is 24.5 years x 104,232,000 board feet or 2,553,684,000 board feet.

The volume to be included in the 1981-86 contract period is calculated by substracting the volume harvested prior to January 1, 1981, from the total allowable at the end of the 1981-86 period. This volume will consist of uncut timber under contract that is carried forward from the 1976-81 period (carryover volume), plus enough new volume to meet the contractual commitment (total allowable harvest volume). Estimates during the preliminary stages of planning were that approximately 525 MMbf of new volume would be needed to satisfy contractural commitment. Consequently, at the beginning of this planning period, a land base was identified for interdisciplinary analysis that would provide up to 525 MMbf (Vol/ac. figures coming from the best available source, e.g. TLMP inventory). A more recent estimate of vol./acre was made based on statistical sampling techniques for the rate redetermination. 1/ This estimate indicates that less land base may be needed to provide the contractual commitment.

Prior to the preparation of the rate redetermination for the 1981-86 period, a precise calculation of the carryover volume and volume cut prior to January 1, 1981, will be made. Calculations will reflect the actual harvest to date and estimated harvest between that date and January 1, 1981 and any contractual modifications or changes made in 1980 which may affect the amount of volume carried forward into the 1981-86 period. The total of new volume to be included in the contract period will be adjusted to meet the total contractual commitment by adding or deferring units.

Because carry over volume and vol./acre estimates will not be conclusive at the time of filing the FEIS, a method of harvest unit prioritization is presented (see page 120).

United States except for bridges and causeways (CFR 33,209.720(e)(1). All structures constructed within the tidal influence zone require a Coast Guard Bridge permit in accordance with the General Bridge Act of 1946.

Major Issues and Concerns

Extensive public involvement has identified some of the major issues and concerns of affected communities, Native organizations, interest groups, and other government agencies. In addition to contacts made by the 1981-86 study team, public comments received during earlier planning processes (such as the Area Guide and TLMP studies) were reviewed. Through this process and extensive public contacts throughout the planning phases, a number of issues and concerns have been resolved.

The following summary of major issues and concerns reflects public comment during the planning process and review of the draft environmental statement, as well as input to the Planning Team while the final environmental statement was being prepared.

1. Protection or enhancement of all natural resources within timber harvest areas is of continuing concern to the public and to land managers. Concerns raised by the public during review of the draft environmental statement included: protection of spawning and rearing streams and estuarine environments, particularly in identified areas of high productivity or sensitivity; protection of wildlife habitat, particularly habitat areas of critical need to wintering deer; deferral of harvest or design of units to protect visual resources, particularly along waterways and planned roads which have recreational potential.

These concerns were addressed in development of the final environmental statement. Extensive adjustments for the final operating plan meet

---

1/ This included vol./acre estimates of carryover units as well as new units planned for the 1981-86 period.

environmental concerns even further. The interdisciplinary team is satisfied that the proposed harvest plan, including its provision for specialist participation and monitoring during implementation, meets sound management standards for protection of resources.

2. Meeting the social and economic needs of area communities is a second concern. Although the needs of affected communities differ, the concerns expressed by residents have been of major importance in the planning process. In most cases, communities have expressed dual concerns--for protection of resources and special use areas and for sufficient timber harvesting activities to support and/or create economic opportunities. During on-going public involvement programs, the team found that this dual perspective existed in all communities directly affected--Hoonah, Tenakee Springs, Sitka, and Wrangell principally.

While this dual direction removed one potential conflict--the possibility that a community might oppose all logging in areas nearby--it created new challenges to provide the full range of community needs--economic needs, recreational needs, subsistence needs, and protection of lifestyle. Alternatives and the recommended action reflect the effort to serve these various community expressions.

3. The planning process and role of the public in reaching decisions are, in themselves, issues of importance. A number of concerns have been expressed that public comments are not effectively used in decision-making. Some feel that comments are requested either too soon or too late in the process with the result that comments are uninformed or are irrelevant to the decision. The team chose to make public contact early with considerable community and interest group involvements during early planning phases and throughout the planning process. The resulting comments had a major effect in shaping planning decisions.

A related issue is the concern that five-year operating plans do not provide sufficient context for evaluation of proposals. Viewed for one operating period, proposal may not seem significant. However, when evaluated in terms of past and future harvest, long-term impacts may be apparent. The Tongass Land Mangement Plan provides some of the information which has been needed for broader review of operating plans. Past harvest areas are shown in relation to current proposals in the maps contained in Part 2 (maps).

4. Selection of areas for harvest is of concern to some publics. Although all areas considered for harvest are allocated to LUD III or LUD IV under the Tongass Land Management Plan, some publics continue to feel that some of these areas should be deleted from timber harvest proposals because of high other resource values. Among those areas of greatest concern are Port Camden, Kadashan, lower Game Creek, and Finger Creek. Portions of other watersheds were also highlighted by some publics.

It must be recognized that available volume calculations on the Tongass National Forest includes these LUD III and LUD IV areas. In order to meet the volume needs of the long-term contracts and the established timber industry, upon which regional economy is largely based, most of the LUD III, and LUD IV areas will be entered now or in the future. Consequently, while harvest may be deferred in some areas, such deferrals should be for sound management reasons. These might include delay to promote better distribution of age classes to establish even flow of timber into log transfer sites, or to provide gradual adjustments where socioeconomic effects in communities are anticipated. Such deferrals of harvest should not be misunderstood to imply that future harvest will not occur.

Capability and Suitability

The capability and suitability of the Tongass to provide commodity and amenity values was determined by six land assessment task forces for the Tongass Land Management Plan. Inventory data, reflecting land capability, was gathered, stored, and assessed Forest-wide for 867 Value Comparison Units (VCUs). The evaluation of this resource data took into consideration environmental and economic consequences and effects on land use capabilities. The resulting Land Use Designations (LUDs) specify the suitability of each land unit for specified management emphasis. Inventory data for each resource, and Land Use Designations for all Value Comparison Units can be found in the task force working reports and final TLMP environmental statement.

The 1981-86 operating plan proposes timber harvest in 21 Value Comparison Units. All VCUs included in the plan are allocated to LUD III or LUD IV by TLMP.

National Forest Management Act

The Alaska Lumber and Pulp Company contract is presently being amended to reflect the NFMA regulations; this EIS also reflects the most recent regulations.

Federal Permits or Licenses Required

Department of the Army authorizations are required under the River and Harbors Act of 1899 for all structures or work in navigable waters of the United States except for bridges and causeways (CFR 33.209.720(e)(l). All structures constructed within the tidal influence zone require a Coast Guard Bridge permit in accordance with the General Bridge Act of 1946.

II. Affected Environment

Current Conditions

Physical Factors

Detailed description of the area and its principle resources can be found in the Southeast Alaska Area Guide; the Tongass Land Management Plan and associated task force working reports; and the series, "the Forest Ecosystems of Southeast Alaska", prepared by the Pacific Northwest Experiment Station (PNW). Copies of these documents and specialists' reports from the 1981-86 study are available from the Chatham and Stikine Area Forest Service offices.

Climate

Climate influences timber operations in two major ways. First, study indicates that 27 percent of annual tree mortality on the Tongass National Forest is attributable to wind. Consideration of potential windthrow, thus, becomes a major factor in planning cutting unit boundaries, stream buffers, and wildlife travel corridors. Secondly, climate limits the logging season to the period April through November. This is an important factor in calculating economic viability of timber operating plans.

The relationship of climate to the soils and vegetative ecosystems of the Tongass is considered in detail in Forest Service and other publications (see Appendix, Sources Cited).

Soils

Steep sideslopes are common in the broad, U-shaped valleys of Baranof and Chichagof Islands. Valley sidewalls are often dissected by deeply-incised V-notches. Soil parent materials include glacial till, organic matter, volcanic ash, colluvium and residuum. Soils formed in fine textured marine or lacustrine deposits are known to be present at low elevation (below 500 feet) in the Iyouktug and Seal Creek drainages.

The East Kuiu Management Area, with the exception of a large alpine area at the head of Camden, Threemile, and Lagoon VCUs, is characterized by low-lying rounded hills that have been glacially scoured. Glacial deposits are absent in many places and, where present, are generally shallow. Valley sideslopes typically have a stairstep appearance. Soils on the more gentle slopes are somewhat poorly drained mineral soils and muskeg. Soils on the escarpments are shallow, welldrained soils over bedrock.

Soils of southeast Alaska are resistant to surface erosion as long as the surface duff layer remains intact. When the duff is removed, however, the underlying mineral soil is very erodable. A significant amount of the man-caused soil erosion and sedimentation is associated with roads. Timely stabilization and revegetation of cut and fill slopes is necessary to reduce much of the erosion and sediment production.

Soil mass wasting, resulting from steep slopes and/or unstable soils, was a major consideration in planning the proposed timber operations. Soil erosion as mass land failure is a natural process but may be accelerated where mineral soils are exposed or where roads undercut slopes or concentrate runoff.

Most mineral soils are thixotropic (in a state easily changing from gel to liquid when agitated). Very low-bearing strength makes the soil unsuitable for most engineering purposes, especially road building. Nearly all roads in the study area need to be built by rock overlay.

Coastal Beach Landscape (photo: NE side Catherine Island)

Avalanche Landscape (photo: South Arm Kelp Bay)

Muskeg Terrace Landscape (photo: Area between Whitestone Harbor and Spasski Bay)

Visual Resource

The visual resource affected by the 1981-86 operating plan is characterized by a strong diversity in landscapes. This includes areas of unique vegetation patterns, scenic rock formations and waterforms.

An inventory using the "National Forest Visual Management System," was done for the study area. One of the primary components of this method involves the rating of Variety Classes (minimal, common, distinctive landscapes) based upon Visual Character Types (large areas of similar land and water forms). The visual quality of a landscape is based upon the amount of variety relative to the visual character type within which it exists. The visual resource for the study area can be described generally in terms of the five character types present in southeast Alaska. For more information, see "Visual Character Types," No. 63, published by the USDA Forest Service in Alaska. The landscape character types occurring in the ALP 1981-86 operating area are:

> Chichagof characteristic landscape, which exists on all of Chichagof Island, the northern one-fourth of Baranof, and Kruzof Island, consists of generally rounded land forms. However, the northern portion of Chichagof Island has rugged and jagged landforms with a maximum relief of 2,500 to 3,000 feet. Higher portions have dramatic rocky spires and narrow, sharp ridges, visible for many miles. Rocky shorelines are common with many scattered gravel and sand beaches. Streams are generally clear and offer considerable variety, compared to some character types, eg., pools, rapids, cascades, falls, meandering forms. Lakes are plentiful. Saltwater bays and estuaries are numerous and exhibit much variety. Lower slopes are generally conifer covered or exhibit a combination of muskeg and scrub-conifer. Muskeg and conifer mixtures are most common on West Chichagof and East Admiralty.
>
> The Kupreanof lowlands characteristic landscape, which exists on Kuiu Island, Zarembo Island, western Kupreanof Island and northern Prince of Wales Island, consists of islands of rolling terrain displaying past heavy glaciation. Maximum relief is 1,000 to 3,400 feet, separated by an intricate network of waterways and bisected by several low-lying areas. Parts of some of the islands are terraces only a few feet above sea level. Scattered block-like mountains having rounded hummocky summits, and occasional peaked mounds serve as focal points when viewed from waterways. Other rockforms are insignificant. There are abundant lakes in glacially scoured basins. Parts of some small islands are 30 to 50 percent lake surface. Streams are generally short, often discolored by vegetative stain and offer a variety of stream forms, i.e., pools, cascades, rapids, etc. The maze of saltwater channels and waterways offers variety of its own. The area is largely covered with a spruce/hemlock forest except for the rather extensive muskeg areas which occur in low-lying terraces and upland or ridgetop benches.

Future refinement of landscape character subtype to develop a more complete analysis of the variety of landscapes, has been accomplished for the ALP 1981-1986 study area. See Chatham Area specialist reports which describe 7 character subtypes.

Another primary component of the "National Forest Visual Managment System" is the rating of Viewer Sensitivity level. Sensitivity levels are determined for land areas viewed by forest travelers and users. Table 25A shows viewer sensitivity levels associated with inventoried Visual Quality Objectives.

Refer to the Recreation resource section and specialist reports for future scenery and use descriptions within specified Management Areas involved.

Cultural Resources

A preliminary archaeological reconnaissance of the management areas included in the study has been completed and is available on file in the Chatham and Stikine Forest Supervisors' offices. As field crews finalize cutting unit proposals, intensive field surveys will be conducted.

Based on preliminary reconnaissance within the study areas, little has been found to indicate prehistoric use. However, two major sites indicating occupancy as early as 10,000 years ago have been located just outside the study areas; these are the Ground Hog Bay site on the Chilkat Peninsula, north of Whitestone Harbor, and the Hidden Falls site, south of Kelp Bay. A third site has been located within the Kadashan Management Area, supporting an assumption that further prehistoric sites may exist within the sale area.

Historically, the area has been claimed and used by four primary tribal groups. The Sitka people used the lower regions of Peril Strait; Hoonah people used Port Frederick and the area between Points Sophia and Augusta; and Angoon groups ranged through False Bay, Tenakee Inlet, Catherine Island, Peril Strait, and, occasionally, Kelp Bay. Kuiu Island is believed to have supported a tribal group of its own at one time, though most records show it being used by various Kupreanof and Prince of Wales tribal groups. Village and seasonal hunting encampments were scattered throughout these lands.

Euro-American usage of historical importance includes mining, fish processing, fox farming, and a number of isolated cabin residences.

Known or suspected cultural sites within the study area which would require archaeological examination if impacted by timber harvest are as follows:

Whitestone Harbor: Pitch cut spruce trees; reported hunting and trapping camps; burial site; petroglyph; early logging camp site; fishing camps.

Freshwater Bay: Historical mining camp; pitch cut trees and garden plot; village site, petroglyphs; fishing camps.

Tenakee Inlet: Two village sites; stripped cedar and pitch cut spruce trees and rock cairn; reported seal hunting camps; petroglyphs.

Crab Bay: Reported hunting and fishing camps; village site; burial site; pitch cut and stripped trees; petroglyphs.

Corner Bay: Reported hunting and fishing camps.

Kadashan: Prehistoric lithic material and suspected village site; petroglyphs.

Kelp Bay: Pitch cut and stripped trees; reported hunting and fishing camps; village site; petroglyphs.

Kuiu Island: Various Tlingit sites, including a village and fort; garden sites; pitch trees; reported hunting and fishing camps.

Wilderness

The Tongass Land Management Plan, which is the Tongass National Forest supplement to the Roadless Area Review and Evaluation (RARE II), recommends wilderness management for one-third of the national forest acreage, or 5.4 million acres. Another 2,746,000 acres are designated LUD II, for roadless backcountry management. Development associated with timber harvest is prohibited in these areas.

The remaining lands, totaling approximately 7,045,000 acres, have been allocated to LUD III and LUD IV which permit commodity development activities. All areas included in the study for ALP's 1981-86 operating period are designated LUDs III or IV.

Water Resources

Combinations of steep slopes, heavy precipitation, and shallow soils with limited water holding capacity result in large streamflow fluctuations.

Nutrient concentrations in surface waters of these study areas are low and natural variability is high. Because of low nutrient levels, primary production may be below the area's physical maximum. Increased nutrient concentrations which may result from timber harvest is advantageous to primary productivity in these areas.

Water, as a solvent and mechanical erosive agent, is never completely free of organic and inorganic matter. Natural sediment concentrations in the proposed harvest drainages are low in comparison to most waters in the United States, but typical of non-glacial drainages in southeast Alaska. Conditions including medium textured soils with thick organic surface layers; high permeability and infiltration rates; and generally rapid revegetation of disturbed soils are primarily responsible for low sediment loads. However, high natural sediment concentrations occasionally occur with mass wasting events and disturbed soil areas; natural stream channel migration; and salmon spawning activity. Sediment sources can be categorized into channel and non-channel sources. Non-channel sources do not necessarily contribute sediment to stream systems due to their location. Total sediment transport through a stream system is highly related to discharge, sediment size, and stream channel geometry. These factors and their components vary considerably throughout individual stream reaches and often respond quite differently to watershed disturbances, whether natural or man-caused.

Executive Orders 11988 and 11990 direct that development on flood plains and wetlands be avoided where there is a practical alternative. All activities and development proposed in defined flood plain or wetland areas have been designed to minimize potential impacts to the area. Mitigating measures have been incorporated in development and use plans to the extent practical. Development in flood plains and wetlands is limited to situations where no practical alternative exists. Development in these areas has been kept to a minimum and does not appear to pose a threat to the environment or to human life.

Air Quality

Air quality in southeast Alaska is generally very good. The region contains no designated nonattainment areas for air quality. There are relatively few major emissions sources in the region, and pollutants are rapidly dispersed by winds and removed by precipitation. Air quality in the state is regulated by the Alaska Department of Environmental Conservation. There are roughly 22 facilities in the region currently operating under air quality control permits, primarily diesel-electric power plants, asphalt plants, incinerators, wood waste boilers, and pulp mills.

Three of the emission sources are associated with Alaska Lumber and Pulp timber operations. These are the ALP pulp mill at Sitka and the two ALP sawmills at Wrangell. The pulp mill is one of the largest sources of sulfur dioxide and particulate matter in the state. The facility contains three chemical recovery boilers, two power boilers, and a caustic liquor incinerator. The facility is considered to be in compliance with sulfur dioxide emission standards, but has not yet achieved compliance with particulate matter standards, due in part to the burning of sludge from the wastewater treatment facility in the power boilers, which was initiated in mid-1978. The mill has operated since 1975 under an air quality variance, which was amended in June of 1979. Alternative control measures are being considered for the boilers. The pulp mill is scheduled to come into compliance by April 30, 1981.

In addition, public concern has been expressed regarding possible odor and visibility problems in Sitka which may be linked to the pulp mill. The Department of Environmental Conservation received approximately 98 letters of complaint from local residents in 1978 and 63 letters in the first half of 1979; efforts are underway to verify the odor and visibility problems and identify possible sources. The State has no specific air quality standards regarding odor or visibility, but does have a general regulation prohibiting emissions which create public nuisance. Compliance after April 30, 1981, will reduce but probably not totally eliminate occasional odor and visibility problems.

In 1979, each of the sawmills in Wrangell requested renewal of variances for the particulate matter emissions from wood waste boilers. Under current operating schedules and conditions total daily emissions are well within maximum allowable emissions.

At peak operations, however, emission concentration standards are exceeded. The variance allows continued operation until a comprehensive program for power generation at the Sitka and Wrangell mills, incorporating wood waste disposal, is completed by Alaska Lumber and Pulp.

Fire

The incidence of forest fire in southeast Alaska is extremely low, although evidence of old burns exists. Summer rainfall and the relative infrequency of summer electrical storms are major factors in reducing wildfire potential.

Water Use and Land Ownership

There are approximately 25 Forest Service special use permits issued for surface and spring water use in the study area. The only hydroelectric activity proposed is in the Game Creek drainage. A main haul road on the east side of the drainage appears to be in close proximity to this proposed project. Feasibility of the proposed hydroelectric development is being studied.

Land ownership status of each management area studied is summarized below. Appropriate negotiation for right-of-ways and proper notification of users have been undertaken. Details concerning these lands and Forest Service negotiations are available on file in the Supervisor's offices in Sitka and Petersburg.

FRESHWATER BAY: Six parcels of eliminated and/or patented ground; four special use permits; four 1906 Native Allotment Act claims; two claims under the Alaska Native Claims Settlement Act (ANCSA): one prospective hydroelectric power site; one selection by the State of Alaska. The one 1906 claim, both ANCSA selections, two special use permits, the hydroelectric site, and the State selection are directly affected by proposed developments.

WHITESTONE HARBOR: Fifteen special use permits; six 1906 claims; three nonpatented groups of mining claims; nine eliminated and/or patented parcels; two townsites; two ANCSA claims; and one trail. One patented piece of ground, three groups of nonpatented mining claims, both ANCSA selections, and the trail are traversed by the mainline road to Whitestone.

CRAB BAY: There are three 1906 claims in this management area. They are located on or near Crab Bay and are unaffected by proposed development in the Finger Creek drainage.

TENAKEE INLET: One special use permit and two patented parcels exist within the 15 Mile-Salt Lake Bay portion of the management area. None are crossed by roads. However, the patented lands (abandoned for several years) are in close proximity to the road location.

KELP BAY: One ANCSA selection exists within this management area. This is the secondary selection area for Angoon, withdrawn under Public Law 92-203 in response to Section 11 (a)(1) of the Alaska Native Claims Settlement Act. The native corporation has presently not selected any of this area.

CORNER BAY: Within Trap Bay there is one 1906 claim and a Native historical site application. The nearest timber harvest activity would be at least two miles north of these sites.

KADASHAN: One 1906 alloted claim and two special use permits. None are crossed by proposed roading, although the mainline road from Corner Bay comes within 1/2 mile of the ADF&G cabin/weir site and the 1906 claim.

EAST KUIU: One small parcel of patented land on the north side of Seclusion Harbor and twelve 1906 claims in the Port Camden area. One of the 1906 claims would be impacted by operating proposals.

Transportation

The existing transportation system consists of presently active and storage category roads, log transfer facilities, and related developments. Use of this existing system is an important part of the 1981-86 proposed operating plan. The existing systems at Kennel Creek, Rowan Bay, Hanus Bay, and in the town of Hoonah will all be used by traffic associated with timber operations. Boat docks with moorage potential for larger craft exist at Hoonah. Small craft docking facilities exist at Corner Bay, Kennel Creek, Rowan Bay, and Eight Fathom Bight (the latter serving the Salt Lake Bay-15 Mile Creek sale area). A 2,500 foot long air strip exists at Hoonah. The Alaska Marine Highway System has ferry terminals at Hoonah, Tenakee Springs, and Kake. All existing and proposed logging camp sites can be served by float plane.

The Forest Service has requested transportation corridor withdrawals throughout Native and State selection areas in the Hoonah vicinity. Right-of-way procedures have been initiated where proposed roads cross patented land in the Gypsum Creek area. Crossing of non-patented mining claims are numerous. The Forest Service has attempted to contact all those concerned about proposed actions according to current procedures. The Forest Service has initiated a "Deed of Further Assurance" for crossing a 1906 Native Allotment Claim in the Hoonah area. This claim has been denied by the Bureau of Land Management but the decision is under appeal.

Maps of the existing transportation system and camps, Native and State selections, certain 1906 Native Allotment Claims, certain patented lands, trails, air fields, ferry terminals and travel lanes, and anchorages are provided in Volume II. Also displayed are proposed roads, log transfer sites, camps, and various associated facilities.

Activities occurring along the National Forest boundary such as timber harvesting will require land line location.

Port Camden located on Kuiu Island

Biological Factors

Vegetation

Forest stands on the sale area are primarily western hemlock and Sitka spruce. Western redcedar is occasionally found on Kuiu Island but does not extend northward to Baranof and Chichagof Islands. Alaska cedar is occasionally found scattered throughout the spruce-hemlock stands on Baranof, Chichagof and Kuiu. A variety of lodgepole pine is found on poorly drained sites. Dwarf mountain hemlock is often associated with muskegs and with southern alpine areas. Alder lines some streams and many shorelines, dominating landslide and other highly disturbed areas. Of these species, all except lodgepole pine and alder are of commercial value. The two non-commercial species are, however, valued by local residents for firewood and play an important role in the total forest ecosystem.) Commercial Forest Land (CFL) acreage and operability for management areas included in the 1981-86 study are displayed below:

Table 1: Operable Commercial Forest Land in 1981-86 Study Areas

MANAGEMENT AREA	TOTAL ACRES	TOTAL CFL/1	TOTAL OPERABLE
Whitestone	73,251	35,724	21,903
Freshwater	119,201	54,839	38,484
Tenakee Inlet	105,267	28,545	16,804
Kadashan	33,641	17,787	12,084
Crab Bay	89,213	33,736	20,637
Corner Bay	135,542	78,504	55,942
Kelp Bay	103,522	36,624	27,812
East Kuiu	94,689	56,143	28,151

Forest understory varies in density in old-growth stands depending on percent of canopy closure which is effected in turn by soil types, incidence of windthrow and the water table.

Understory vegetation of blueberry, huckleberry, rusty menziesia, and devils club are typical. Muskeg areas are dominated by sphagnum mosses, sedges, rushes, and ericacious shrubs. Grass-sedge meadows are located at lower elevations along the coast. Low mat-forming vegetation adapted to snowpack and wind abrasion dominates alpine areas; heaths, grasses, and low plants such as deer cabbage are typical.

No species presently classified as threatened or endangered is known to exist on areas being considered for timber hravest during 1981-86. Any species which might be recognized as a sensitive species or classified as threatened or endangered will be managed according to regional policy which requires that the agency take "such action as necessary to insure that actions authorized, funded, or carried out by them do not jeopardize the continued existence of such endangered species and threatened species or result in the destruction of habitat of such species" (FSM 2633.4-1, February, 1979).

Wildlife

Wildlife Species and Habitat--The Wildlife Task Force for the Tongass Land Management Plan assembled habitat data and criteria for eleven species or groups of species. Those data are available in the TLMP Task Force working report. This information is expanded in the 1981-86 EIS Wildlife Specialist Report along with information on nine other wildlife species found in the 1981-86 study area.

Special or Unique Wildlife Areas--Areas of special or unique importance for wildlife values were identified during preparation of the Tongass Land Management Plan and during the evaluation and examination process for the 1981-86 study areas. Some key areas are highlighted below:

Table 2: Special or Unique Wildlife Areas

Areas	VCU	Feature
Whitestone Harbor Suntaheen	209	Deer winter range study unit. (Deer concentration)
Freshwater Bay Freshwater	215	Vancouver Canada Goose nesting and wintering area.
Freshwater Bay East Point	218	Vancouver Canada Goose winter concentration area.
Tenakee Inlet Salt Lake Bay	202	Waterfowl, brown bear concentration areas.
Kadashan	235	Waterfowl, brown bear and deer concentration areas.
Kelp Bay Portage Arm	296	Waterfowl, brown bear concentratio areas, deer winter range study unit.
East Kuiu Island Port Camden	420	Inland freshwater lakes waterfowl concentration area.
East Kuiu Island Three Mile Arm	419	Waterfowl molting area; bear and bald eagle concentration area; deer winter range study unit.
Salt Lagoon	418	Waterfowl molting, bear concentration area.
No Name Bay	417	Deer winter range study unit.

Threatened and Endangered Species--There are no terrestrial mammal species or avian species known to exist in the areas of the proposed timber sale that are protected by the Endangered Species Conservation Act of 1969 (16 U.S.C. 668(a) and 1973 or the Alaska Department of Fish and Game threatened and endangered list.

However, three species may utilize various habitats on a periodic-seasonal basis during their migrations. These are the Aleutian Canada goose (Branta canadensis leucopareia), American peregrine falcon (Falco peregrinus anatum) and arctic peregrine falcon (Falco peregrinus tundrius). A subspecies of peregrine falcon nests in various habitats in southeast Alaska; however, it is not classified as threatened or endangered. This is the Peale's peregrine falcon (Falco peregrinus pealei).

1/ Muskeg, estuarine and alpine acreage accounts for the difference between total acres and total Commercial Forest Land.

Members of the order Cetacea (whales) occur or potentially occur in the straits, sounds, fjords, inlets, ports and channels of Southeast Alaska or the open waters of the Gulf of Alaska. Several of these whales are listed as endangered species pursuant to the Endangered Species Act of 1973. The endangered species include the Humpback (Megaptera novaeangliae), the Gray (Eschrichius robustus), the Sei (Balaenoptra borealis), the Finback (Balaenoptera physalus), the Blue (Balaenoptera musculus), and the Right Whale (Enbalaena glacialis). The Humpback is commonly seen in the waters of southeast Alaska and may be a year-round resident of the inside passages.

The bald eagle is classified as endangered in the contiguous United States, although it is not on the threatened or endangered list for Alaska. The eagle is protected by the Bald Eagle Protection Act (1940) and the Migratory Bird Treaty Act 1918 (1974). In addition, eagle nest trees are protected through a cooperative agreement between the USDI Fish and Wildlife Service and the USDA Forest Service which restricts all disturbance and impact within a radius of 330 feet of each nest tree center. The necessity of providing adequate perch tree sites near nests is also recognized in the cooperative agreement.

Fish

The Fisheries Task Force for the Tongass Land Management Plan assembled data for the following fish and shellfish: pink, chum, coho, sockeye, and chinook salmon; cutthroat and rainbow or steelhead trout; Dolly Varden char; Dungeness, tanner and king crabs; shrimp and other shellfish such as clams and scallops; herring and smelt. Of the salmonids mentioned above, all except Chinook (King) salmon spawn within the 1981-86 study areas.

The most productive spawning and rearing habitat usually exhibit the following conditions:

Spawning Habitat--The most productive spawning habitats have an underlying layer (substrate) of stable, highly permeable, and relatively sediment free gravel. Productive habitat is free of barriers to the upstream movement of spawning adults and provides salmon with spawning area and escape cover in close proximity.

Rearing Habitat--There should be a high ratio of pools to riffles and low to moderate stream gradient and water velocities. The most productive rearing habitat has no barriers to upstream and downstream migration, but provides undercut banks, natural debris, and overhanging vegetation for aquatic animals. This condition provides stream nutrients for aquatic plants and aquatic insects and other invertebrates. These plant and animal communities represent the basic food chain required by juvenile salmonids. Undercut banks, pools, boulders, and other irregularities in stream flow also provide shelter for juvenile salmonids.

Streamside habitat constitutes one of the most productive areas in the forest environment. Streambanks provide important shelter, hiding places, food and rearing areas for most salmonids (salmon, trout, and char). Juvenile salmonids depend upon and extensively use fallen trees, undercut banks, tree roots and other well-protected areas for rearing.

Adult and juvenile salmonids should have unhampered access to all fish habitat. Coho, steelhead, cutthroat and Dolly Varden tend to spawn in headwater areas and tributaries. Their fry disperse downstream to fully utilize all habitat. Juvenile fingerlings move about considerably as rearing populations adjust themselves to carrying capacities. Juveniles also move in significant numbers to overwinter in small tributaries where temperatures are moderated by groundwater sources.

Estuarine Habitat--Approximately 30,000 miles of tidal shoreline (roughly 60 percent of the total Alaska coast) borders the labyrinth of islands of southeast Alaska. An intricate maze of marine features such as sounds, straits, canals, narrows and channels create a great diversity of estuarine and wetland habitat.

Estuaries and wetlands, although separate ecosystems, usually occur in close proximity to each other. Many species of fish and wildlife depend heavily upon both of these highly productive environments during various life history stages.

Fish Resource Values--Associated with fish resources are amenity, sport, and commercial values. Amenity values are those which contribute to the aesthetic enjoyment of an area because the resource simply exists. Sport values reflect expenditures of sport fishermen, for fishing tackle, license, travel, food and lodging expenses. Commercial values are those paid to the fishermen by the first-line fish buyers, as well as the expenses involved in actual fishing.

Within the study area numerous amenity and sport values exist and are discussed in the Recreation Resource descriptions. Commercial fisheries values are also high and are economically important to most of the affected communities. Because of the complexities of making total economic analyses and impact evaluations of the fishery industry, projections of commercial values can only be approximate. The Tongass Land Management Plan and accessory reports present an overview of the fisheries environment and contributions to the economy of Southeast Alaska. However, detailed analysis for a few specific areas and fisheries are available, and can be used to indicate commercial fishery values within the study area.

Average escapement data on 15 selected watersheds represented in this operating plan support an annual commercial salmon harvest valued at about $3 million. Sport fishing and shellfish values are in addition to this.

Threatened or Endangered Species--No fish species classified as threatened or endangered is known to occur in southeast Alaska. It should be noted that fisheries inventories have not been fully developed in the region, and that specific effort to identify threatened or endangered species has not been undertaken.

SOCIAL FACTORS

Recreation Resources

With few exceptions, the VCUs included in the 1981-86 study were assigned moderate to low ratings for primitive and semiprimitive recreation opportunity by the Tongass Land Management Plan. Within such VCUs, there are, however, specific locations receiving relatively high recreation use or offering outstanding recreational opportunity.

Specialist reports (available on request) include maps displaying recreation opportunities inventoried. These identified values and opportunities are highlighted below.

Whitestone Harbor Management Area

Small boat traffic, tour boats, and Alaska State ferries use Chatham and Icy Straits and Lynn Canal, extensively. Views of the shoreline are normally from middle channel viewing distances and the shoreline is unremarkable.

Existing land based recreation is concentrated along the shorelines of this heavily timbered, often rugged land area. Twelve to fifteen small boats are sometimes observed sheltered in Whitestone Harbor, the most heavily used anchorage in the area. Even though two good beaches are located at the entrance to the harbor, onshore recreational use is primarily by hunters.

Subsistence and sport fisheries occur on fish and shellfish throughout the Whitestone Harbor Management Area.

Two outstanding areas, were explored during the 1981-86 field study. The Mt. Whitestone - Sonyakay Mountain area is one example. One-third of this area is in the Freshwater Bay Management Area. Not directly visible from the water and surrounded by several miles of densely forested rugged terrain, the area receives little use due to difficult access. However, once reached, it is notable for its open and easily walked alpine meadows. The mountains are rugged; the geology is interesting (particularly in the limestone areas). Wildflowers are abundant, deer are plentiful, and the views from the alpine meadows are spectacular in all directions.

A second, similarly attractive alpine area is located in the mountains immediately south of Hoonah.

Freshwater Bay Management Area

TLMP displayed low to high value ratings for the VCUs in this management area.

Several outstanding alpine recreation areas exist in the Freshwater Bay Management Area. Two of these, the Sonyakay and Hoonah Mountain areas, have been discussed in association with the Whitestone Harbor Management Area. Another significant alpine area is found on Sleeping Man Mountain. The ridge top includes limestone rock formations, some challenging to potential rock climbers. Spectacular panoramic views and plentiful deer reward hikers who use an easy access route along the north side of Sleeping Man Mountain. Proposed logging roads in the area would increase accessibil

Two lowland recreation areas are found adjacent to saltwater. The anchorage at Freshwater Creek provides access for sportsmen attracted to the high fish and wildlife values of the grass flats and small lake-pond system. Additional good anchorages, at Cedar Cove and Pavlof Harbor, allow hikers to reach the scenic red cliffs and sand beaches in the area. Good sport fishing is reported at Pavlof Lake, and a portage from the harbor to the lake is available along the north bank of the connecting river. Pavlof River offers limited opportunities for a scenic canoe route, with access provided at the Kennel Creek logging camp.

Tenakee Inlet Management Area

This management area is popular with both Hoonah and Tenakee Springs sportsmen. The existence of a portage from Tenakee Inlet to Port Frederick Bay results in additional recreational use. With Alaska State Marine Ferry service to Tenakee Springs and Hoonah, recreationists are able to take the ferry to one of these communities and make a sheltered bluewater canoe trip, using this portage.

A scenic waterfall is visible from Tenakee Inlet. Another highlight of the portage canoe trip between Tenakee Springs and Hoonah is the scenic rock formation, known as Chimney Rock, at the point south of Neka Bay. The most aesthetic landscape is from the Narrows in Salt Lake Bay to Hoonah.

Kadashan Management Area

This area was inventoried for the ALP 1976-81 period. The inventory rated the Kadashan tidal grass meadow as having high recreation opportunities especially involving waterfowl and bear hunting, wildlife observation, and sportfishing in the lower reach. This is one of the largest tidal meadows in this part of southeast Alaska.

With respect to scenic values, the landscape of Kadashan forms the background view from Tenakee Springs and some areas can be seen from the ferry servicing the community.

Corner Bay Management Area

Opportunities for dispersed primitive recreation in the VCUs of this management area are minimal because of timber development activity which has already occurred. However, dispersed semiprimitive recreation opportunities are better than average because of good access. Increased road access during 1981-86 will expand recreational use in this area. Recreational pursuits such as the gathering of edible plants and shellfish, hunting and fishing, and the simple enjoyment of normally inaccessible surroundings will therefore be enhanced.

Natural attractions in the area include an underground salmon run and popular sport fishing at the Sitkoh and Kook Lakes where recreation cabins are available. Users enjoy the available anchorage at Corner Bay. Many visitors also fly directly to the lake cabins, adding to their heavy use. The Kook Lake cabin was used for 2,150 visitor days (visitor day = 12 hours) during the 1974-77 period.

Kelp Bay Management Area

Catherine Island is a scenic background to the Alaska Marine Highway. This portion of the highway is traveled by tour and ferry boats, commercial boats, and local and out of state small boats. The amount of local sports use is unknown but is probably limited to shorelines and areas accessible by logging roads.

Of the three Kelp Bay Arms, South Arm is most attractive with its steep fjord-like side walls that dive into the water. Strong avalanche patterns provide great diversity in the landscape. A grass flats environment exists at the head of the arm where wildflowers are very abundant. Wildlife viewing expectations are high, and the dramatic Baranof Mountain landscape serves as a scenic backdrop. The anchorage is sheltered from wind but requires deep and heavy ground tackle, often not aboard recreational boats. Mooring buoys would enhance recreational use.

The adjoining side slopes of Portage Arm are heavily forested and the shorelines are straight and rocky. Boaters may venture up the waterway for preliminary exploration, but when considering the marginal anchorage and recreational opportunities that exist in the area, it is unlikely that they will stay long.

Crab Bay Management Area

The recreation and visual inventory for the ALP 1976-81 period rated the tidal grass meadow at the head of Crab Bay and adjacent views as moderate to high. The northern half of this management area was not surveyed during the 1981-86 resource inventory. The southern portion, however, was inventoried with minimal recreation opportunities found. The scenic values of the landscape are the predominant resource. The southern boundary of the management area provides the background and middleground view from the ferry route on Peril Strait. The northern boundary provides the background view from Tenakee Springs and the ferry serving the community.

The estuary found at the north of Finger Creek offers a small boat anchorage adjacent to the scenic park-like environment of the area.

East Kuiu Management Area

Existing recreational use of the area is relatively low. Most recreation users come from Kake and Pt. Baker. The area is well known for its black bear population. Deer hunting has been closed in recent years due to low populations. Fishing is generally good in surrounding salt water and there are several good anchorages in the area, often used by commercial fishermen. There are no developed recreation facilities in the management area. Kayakers occasionally portage between Port Camden, Three Mile Arm, and Bay of Pillars, visiting Kake as an embarking and returning point via Port Camden and Rocky Pass. It is presently the policy of the operator not to permit employees and residents of the Rowan Bay camp to have privately owned vehicles on the island.

Tour ships and commercial vessels using Sumner Strait pass southeast of Strait Island and within three to five miles of the southeastern part of Reid Bay/Alvin Bay area. Travelers and fishing vessels using the small boat route through Keku Strait view the east coast of the area in the far middleground to background. Light aircraft primarily serving the Rowan Bay area often pass over the area at fairly low altitudes.

The East Kuiu Management Area is divided into six rather distinct areas related to salt water bays, each with somewhat different characteristics:

Port Camden

Port Camden is a long and relatively narrow bay extending approximately eight miles south and west from Keku Strait and ranging in width from over two miles at the mouth to less than one-half mile near the head. The character of the bay changes dramatically as the visitor passes from low, rolling, forested hills at the mouth to high, cliff-like walls near the head that enframe views of the snow covered alpine area between Port Camden and Bay of Pillars. There are several good anchorages on either side of the bay. Sport fishing is good; waterfowl and sea mammals are in abundance. Recreation potential is concentrated upon the salt water; however, there is a lake/stream complex inland on the east side of the bay that is visually appealing and contains valuable fish and wildlife habitats. It is possible to hike up into the alpine area at the head of the bay.

Three Mile Arm

Three Mile Arm also provides a visual transition from open, rolling, forested hills to enclosed head with a dominant alpine view. The steep canyons are lacking, however, and anchorages are somewhat limited. A major stream flows into the bay from the north draining an inland lake deep in the Keku Peninsula that is visually quite appealing and is valuable fish and wildlife habitat. The stream is walkable except during periods of high water. Several patches of timber have been harvested along the shores, the more recent about 1971.

Seclusion Harbor/Salt Lagoon

Salt Lagoon is an outstanding example of a "salt chuck." Visual quality and abundant wildlife provide outstanding recreation opportunity. Seclusion Harbor provides a fine anchorage. The chuck is only accessible by skiff or other small craft at high tide.

No Name Bay

Quite different in character from the other bays in the area, No Name Bay has a very wide mouth; its inner half is dotted with tree covered islands. The surrounding hills are low and rolling. Recent clearcut timber harvest activity has changed the visual character of the area. There are several good anchorages in the No Name Bay area and wildlife abound.

Alvin Bay

This bay is short and fairly narrow and contains several recent clearcuts. Its visual quality is relatively low but there are some good sand and gravel beaches on the north side and a good anchorage at the head.

Reid Bay

Open and surrounded by low, rolling, forested hills, this bay provides less recreation potential when compared with other bays in the area. There are several anchorages and several large, sandy beaches.

Affected Communities

To varying degrees the following communities (described in the Tongass Land Management Plan) may be affected by timber operations during the 1981-86 operating period:

- Gustavus
- Kake
- Hoonah
- Kennel Creek
- Mount Bether
- Petersburg
- Tenakee Springs
- Kupreanof
- Angoon
- Wrangell
- Port Alexander
- Point Baker-Port Protection
- Sitka
- Rowan Bay
- Juneau
- Corner Bay

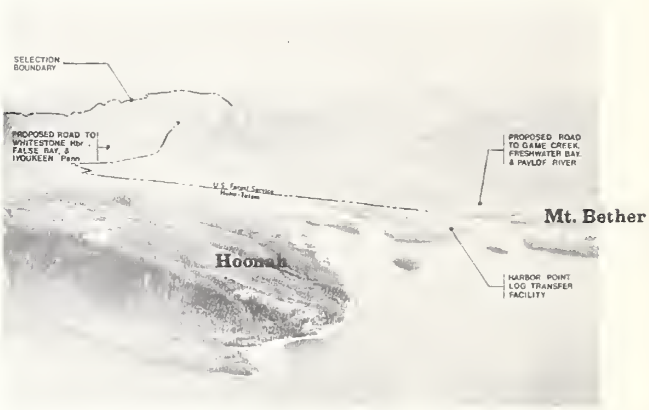
The relationship of these communities to the planned operations vary in nature. Sitka and Wrangell, for example, rely heavily on the timber industry for economic stability; their interest is, primarily, that local mills remain operational. Communities such as Petersburg, Point Baker-Port Protection, and others are concerned that timber activities be conducted so as to protect the commercial fishery. Other communities, such as Gustavus, Angoon, Kupreanof, Port Alexander, and Juneau, may use specific areas for recreation and subsistence, although this use is understood to be moderate to low on the areas proposed for harvest. Hoonah, Mount Bether, Tenakee Springs, Kake, and the three logging camps (Rowan Bay, Corner Bay and Kennel Creek) may experience more direct effects from logging and related activities.

HOONAH. Located near the mouth of Port Frederick on northern Chichagof Island, this community has grown rapidly in recent years. Traditionally, a fishing village, Hoonah has experienced severe economic difficulties through closure of adjacent waters to purse seining in 1976. Although Hoonah seiners have been able to operate in other areas, fishing has been for limited periods. A substantial seasonal livelihood has been provided by the 115 unit trolling fleet; however, the new hand trolling regulations are likely to reduce harvest for several years.

The Hoonah Community Action committee is presently examining several options to improve the employment base for the community. Three key prospects are development of timber industries, increased tourism, and aquaculture development. The community has participated actively in land planning on the Tongass for a number of years, consistently urging decisions which would promote economic stability in the community. The decision of the IDT to expand the 1981-86 study to include Hoonah on an interconnected road system through the Whitestone Harbor and Freshwater Bay Management Areas was in response to a community request.

With interim conveyance of the Huna Totem land selection (east of the community in the Spasski drainage), the community regards future development of timber holdings as a major economic and employment opportunity. The proposed road system, along with clustering of related developments, such as a logging camp and log transfer facility, in the Hoonah vicinity, are expected to (1) create local employment; (2) facilitate development of selection lands; (3) attract additional population as a tax base; (4) increase access to favored hunting and recreation areas. An additional benefit is the potential opportunity for increased commerce with the adjacent community of Mount Bether, should that community develop an access spur to the logging road. The mutual benefits of close association between these two communites have grown in recent years and now constitute a major social and economic strength for each community.

More detailed socioeconomic information concerning Hoonah is provided in the Appendix (Section V).


SELECTION BOUNDARY
PROPOSED ROAD TO WHITESTONE Hbr, FALSE BAY, & IYOUKEEN Penn
U.S. Forest Service
Huna-Totem
PROPOSED ROAD TO GAME CREEK, FRESHWATER BAY & PAVLOF RIVER
Mt. Bether
Hoonah
HARBOR POINT LOG TRANSFER FACILITY

Proposed development near the commmunities of Hoonah and Mt. Baker.

MOUNT BETHER. Located at the mouth of Game Creek, a few miles south of Hoonah, this community includes slightly over 100 residents. The principle economic base is agricultural, with 72 acres of privately owned and leased land under cultivation. Through extensive enrichment of this acreage, using kelp, shell, and refuse from the Hoonah fish cannery, crops have been sufficiently abundant to permit marketing of produce beyond what the community uses. Principle markets are Hoonah and Juneau, which is reached by the Alaska Marine Highway ferry stopping in Hoonah. Using a small community sawmill, Mount Bether residents have constructed their own homes, work buildings, and a large meeting hall (which also serves as a school, grades K-12). The isolation of Mount Bether is increased by an extended tideflat. Access is limited to high tide or a long hike across the mud flat. Besides the inconvenience of limited access, this situation has, on occasion, necessitated helicopter evacuation of sick or injured residents. In addition, transport of agricultural products has proven very difficult. To supplement income, therefore, a number of Mount Bether residents have taken jobs or provide craft services in Hoonah. Besides supplementing income for Mount Bether residents, this relationship between the communities has provided Hoonah with important service workers, such as plumbers, electricians, carpenters, and others.

In the future, Mount Bether residents view community expansion as a key factor in the settlement's survival. Acquisition of additional land to support existing residents and others who wish to join the community may be possible through bidding on adjacent State selection lands. A second key factor is better economic returns on their existing agricultural lands. Improved access is necessary for this as well as other potential economic activities, eg. development of an aircraft mechanic service at the Hoonah airport, production of local lumber for construction and bridge planking, etc. A third key factor is providing for the safety and convenience of residents. For these principle reasons, the community supports logging and road construction in the Game Creek drainage, proposing to construct a road spur to this proposed logging road. The community recognizes that some loss of privacy could result but considers benefits to outweigh this consideration.

TENAKEE SPRINGS. The concerns of this co munity were of key importance in developing the 1976-81 ALP operating plan. Many issues and characteristics of the community, described in the final EIS for that operating plan, continue to be important considerations. The lifestyle preferred by most Tenakee Springs residents, for example, continues to depend upon isolation, simplicity, and enjoyment of the natural surroundings of Tenakee Inlet. Similarly, economic dependence upon subsistence and commercial fishing continues to be a key element in the community's opposition to increased timber harvest in the Inlet.

At the same time, a number of residents and the elected officials of the community recognize existing logging activity as an important economic base for the community. The logging camp at Corner Bay, which was started during 1973 as a part of the 1971-76 operating period, now provides employment to twelve Tenakee Springs residents. The community has provided data indicating that 40-50 percent of the business conducted at the general store in Tenakee Springs is provided by the logging camps. With closure of the logging camp at Crab Bay at the end of the 1976-81 operating period, the Corner Bay Camp will become even more significant to the economic stability of the community. The conclusion drawn by many residents and by elected community officials is that enough logging in the Inlet to sustain this camp is desirable, providing that this harvest activity is conducted in a manner consistent with sound fisheries management.

Socioeconomic assessment of this community was conducted by the State of Alaska, Department of Community and Regional Affairs during the ALP 1976-81 Forest Service planning process (see Appendix of the 1976-81 Environmental Statement for the resulting report). This data was tested and updated by the University of Alaska in subsequent socioeconomic assessment during the TLMP planning process (report available through the Chatham Area Forest Supervisor's office).

These socioeconomic assessments were utilized by the 1981-86 interdisciplinary planning team in conducting public involvement activities in Tenakee Springs and in developing proposals for management activities in and near Tenakee Inlet. Data contained in the existing studies and gathered during the current planning process will be tested and updated during the first three years of the upcoming operating period.

A key concern of the community has been management decisions for the Kadashan drainage, both for its high fisheries value and for its proximity to the community lying across the Inlet. Some residents have specified their opposition to entering this drainage for timber harvest. Others have stated that limited harvest, with special measures for fisheries protection, would be acceptable if necessary to maintain the Corner Bay Logging Camp.

Satisfaction of the community with 1981-86 operating proposals would appear to depend on the following factors: (1) continued operation of the Corner Bay camp, with no new camps developed in the Inlet; (2) no developed road connection into the community; (3) protection of key fish streams and estuarines in the Inlet; (4) maintenance of some bays within the Inlet in a natural condition for recreational enjoyment; (5) administration of logging activities in such a way as to limit the sight and sounds of development; (6) proposals for Kadashan.

KAKE. The native community of Kake is located on Keku Strait on the western shore of Kupreanof Island, approximately 18 miles northeast of the nearest planned activity in Port Camden. Logging, fishing, and fish processing are dominant economic factors in this community of approximately 550 persons. In addition, the community depends to a major extent on a subsistence lifestyle in areas which include Kuiu Island. Response of citizens to the TLMP process indicates that the community generally considers management regulations and guidelines for LUDs III and IV developmental activities adequate to protect resource values and historical sites important to the community.

High sport and commercial fisheries values make the development and operation of a log transfer facility in Port Camden the most significant local issue. Community leaders and commercial fisherman have expressed strong opposition to the proposed Camden transfer site. as displayed in the DEIS. A site closer to Point Camden, near the mouth of the inlet, would be more acceptable to the community.

EXPECTED FUTURE CONDITIONS:

A detailed description of timber harvest activities, effects, and the expected future conditions within the affected environment are displayed in Section III, Effects of Implementation.

III. Planning Alternatives and Recommendations

Evaluation Criteria

Evaluation criteria are standards developed for appraising alternatives. They are established early in the planning process and may be revised as necessary to reflect any changes in the planning situation.

Evaluation criteria for alternatives in the 1981-86 operating plan were established by the Forest Supervisors of the Chatham and Stikine administrative areas as a part of the interdisciplinary study plan. These criteria were presented to the public for review in October, 1978 (see Section IV. Consultation with Others).

The following evaluation criteria establish the constraints within which a preferred alternative may be identified.

1. The preferred alternative must be within direction set in the Tongass Land Management Plan and must be within existing laws and regulations.

2. The preferred alternative should provide an opportunity to meet contractual obligations.

3. The Forest Service should have the people, time, and dollars to implement the plan.

4. The economic costs should not exceed economic benefits.

5. The environmental and socioeconomic costs should not exceed total benefits.

6. The preferred alternative should reflect expectations expressed in the public involvement process.

In addition to the evaluation criteria, planning objectives were identified which recognized management, land base, and resource capability constraints. These objectives included:

1) Harvest allotments to meet contract needs (up to 525 MMbm) would be split between the Chatham and Stikine administrative areas up to 395 and 130 MMbm respectively.

2) The interdisciplinary teams would develop alternatives producing an acceptable balance of environmental and economic benefits, meeting the requirements and guidelines of NFMA, TLMP and Southeast Alaska Area Guide.

3) Best management practices would be employed to the greatest extent practicable. "Best management practices" as used here refers to desired courses of action that should be followed to effect the desired conditions to be achieved in the design of the operating plan. They represent the collective judgment of the interdisciplinary team in response to Southeast Alaska Area Guide policies.

4) Harvest units would be developed only where they do not block future access to other operable volume. Such blockage results when timber must be harvested (yarded) over second growth stands.

5) The only timber harvest system to be considered that is currently not used in ALP operations would be a skyline system with 2,000 feet span reach.

Processes used to develop and refine alternatives by each interdisciplinary team differed only at those points where unavoidable and clear differences in the management situation required a specific planning approach. These processes are described below. Differing management situations stemmed from the fact that the Stikine Area IDT was working within a single LUD IV management area (East Kuiu), that is a logical extension of current timber harvest activities. The Chatham Area IDT, in contrast, was working with seven management areas and a combination of LUD III and LUD IV allocations under TLMP.

As a result of the size and complexity of the area under consideration by the Chatham Area IDT, less intense field inventory and analysis was completed for these seven management areas than for East Kuiu. It should be emphasized that at the end of the planning process (that is the point at which the plan is implemented), level of inventory and analysis on all areas will be completed with equal intensity. During preparation of the environmental analysis issues which do require additional field investigation have been identified in terms of potential effects or impacts. It is for this reason that additional data, in charts and narrative presentation, is provided for the seven management areas located on the Chatham. It should also be emphasized that at the conclusion of the planning process, management standards for all activities will be the same with unacceptable effects being resolved in the course of field investigation prior to implementation.

The Chatham Area choose to identify management objectives to emphasize short-term timber harvest economics, environmental maintenance or a combination of each. In all considerations areas were designated for retention where timber harvest was deferred to protect fish, wildlife and other resource values. (These areas will not be harvested until technology or timber economics allow harvest while providing protection to other resources). Short-term timber harvest economics were provided for by developing plans containing large, concentrated harvest units requiring limited roading. Smaller and more dispersed harvest units are generally more costly in the short-term but less impacting to other resources despite the need for more roads and facilities.

The Stikine Area chose to identify management objectives to maintain a balanced, orderly development and extension of the present Kuiu operations. Alternatives were developed around the following additional criteria:

(1) Total volume needed for the five-year period from the Kuiu Island contingency area is approximately 200 MMbm. This volume will sustain ALP's Kuiu operations at current levels.

(2) No options to exceed 200 MMbm (total) would be evaluated since they would require a substantial increase in ALP's Kuiu operation, possibly additional camps. This would act to the disadvantage of the Stikine Area's management capability to balance long and short-term sale volume offering.

(3) Approximately 70 MMbm would be "carried over" from the 1976-81 operating plan, leaving a balance of up to 130 MMbm to be selected from the Kuiu contingency areas.

(4) Subsequent operations would result in an orderly and logical expansion of current operations insofar as it is practical to maintain the focus of company operations and Forest Service administration at Rowan Bay.

(5) A "Best Management Practices" indication of volume available to an initial entry in the East Kuiu Management Area was identified by the interdisciplinary team as approximately 240 MMbm (see description of Stikine area planning process on page 43.) Therefore, the 130 MMbm selected from the study areas would be a product of the assessment of roading options, log transfer sites, environmental effects and costs.

(6) No new camps would be developed. This is one of several assumptions carried into the early planning for this Management Area: (a) That an interconnected road network would be a necessary link to remaining forest stands over a major portion of Kuiu Island; (b) One camp (Rowan Bay) would have long-term administrative and multiple use management benefits for Kuiu Island resources. The goal of providing for a single permanent camp for the ALP Company operations has been supported through the planning process by National Marine Fisheries Service, U.S. Fish and Wildlife Service, and Alaska Department of Fish and Game through a re-evaluation of the interconnected road from Rowan Bay (addressed in the FEIS for the 1976-81 ALP Operating Plan by an interagency-industry task group in September, 1978.)

(7) The location of new log transfer sites would be based on the considered needs of all resources.

(8) Road access from Rowan Bay would be accomplished during the 1976-81 five-year operating period.

Alternatives Considered

Planning Process

To arrive at logical alternatives for the five-year period, coordinated multi-resource management objectives identified in TLMP had to be validated through the IDT process for the areas selected.

The TLMP has provided direction for management of these areas based primarily on aerial photo inventory data. An interdisciplinary goal of the Forest Service is to update the TLMP direction with more accurate on-the-ground inventory data and to refine stated objectives.

Where the planning process, could be substantially completed prior to the FEIS, alternatives were structured around implementation of the IDT first entry proposal. Under these alternatives, most potential harvest impacts have been identified and avoided or minimized prior to the FEIS.

Where inventories are incomplete, harvest is proposed contingent upon final assessment by IDT specialists prior to layout and release for harvest. In these instances, alternatives were structured around potential impacts to resources under varying intensities of harvest. The process of interdisciplinary field review is described in the Southeast Alaska Area Guide.

The following descriptions of Chatham and Stikine Area planning processes indicate differences in sequence of activities but are similar in terms of the final product which is a coordinated harvest plan.

Chatham Area:

On the Chatham Area, the 81-86 planning process actually started in the fall of 1977 when the interdisciplinary team was selected, although some work, such as identification of consideration areas and development of decision criteria, had been done earlier. At this time, the Tongass Land Management Plan was not complete. The first task, therefore, was to identify possible entry areas. Because land allocation (TLMP) Native land claims, and Presidential withdrawal areas were not identified, selection of entry areas was tentative.

Based on aerial photo inventory data, the team developed preliminary layout plans. During this process, several areas which had been initially considered were deferred from further consideration in this planning process (see pages 51-53). Areas for which preliminary layout plans were developed included the Freshwater Bay Management Area (MA), Whitestone Harbor MA, Tenakee Inlet MA, Crab Bay MA, and Kelp Bay MA.

During the 1978 field season, the layout plans were field reviewed on priority units by specialists. Operable commercial forest land was then identified by the interdisciplinary process. The information gained from the field review was used in developing Alternatives 1, 2, and 3.

Since field reviews of all proposed areas were not completed during this phase of the planning process, field management forms were developed. (see Appendix for sample field form). These forms key the sale administrators to known or potential resource impacts, and have been completed for all proposed units and adjacent road segments. All resources are included. Units cannot be released until concerned specialists have been contacted and the appropriate mitigating actions developed if necessary. (Field management forms are kept on file in the Chatham Area office in Sitka.)

The draft Chatham Area Project Guidelines, developed in 1977, are another mechanism used to insure that the appropriate environmental concerns are employed in all sale activities. The draft Chatham Area Project Guidelines identify the most current best management practices and also identify conditions where environmental impacts may occur. The draft Guidelines alert the sale administrator so that the appropriate specialists may be notified where necessary.

Stikine Area:

The following sequence of events was established by the IDT as ideal for the efficient completion of planning for the 1981-86 operating period on the East Kuiu management area. This sequence was followed as closely as possible.

Preparation for the 1981-86 operating period began on the Stikine Area immediately after completion of the 1976-81 plan. Work completed in 1976 consisted primarily of inventory 1/ and preliminary exploration of possible road corridors and a reconnaissance of potential log transfer sites.

During the winter of 1976-77, a preliminary layout of roads and operable commercial forest was begun (Step 8 in Figure 3, page 44) for the VCUs being considered. At this time, the TLMP process had not begun and both Tebenkof and Bay of Pillars were included as potential sources of volume.

During the 1977 field season, resource inventories were continued and reconnaissance of alternate road routes and potential log transfer sites was continued in more detail.

In the winter of 1977-78, the purchaser's proposal for the 1981-86 operating period was received (as per section 7a-3 of the timber sale contract.) The IDT was established and a study plan was developed in coordination with the Chatham Area. An analysis of inventory data revealed areas where various resource values overlapped to the point that field analysis was considered necessary. The aerial photo layout of operable CFL was completed and, in connection with resource interaction areas, was the basis for planning field examination (Step 9).

During the 1978 field season, the IDT field checked alternative roadlines and harvest unit locations identified as having potential resource management conflicts. By this time, the Tebenkof VCU had been eliminated as a potential timber volume contributor but Bay of Pillars was still being considered. The feasibility of skyline systems needed to meet prescriptions calling for partial and full suspension of logs was also begun.

Figure 3 STIKINE PLANNING PROCESS

Examination and identification of Management Areas for inclusion in 81-86 planning effort (see above)

STEP		
1	TLMP Inventory Aerial Photo	
2	TLMP Allocations	
3	TLMP Mgmt. Objectives	
4	Inventory of Resources	PRESCRIPTION PLANNING
5	Analysis of Inventory Data	
6	Develop Study Plan	
7	Develop Multi-Resource Objectives	
8	Develop Potential Access and Timber Harvest Alt. (Aerial photo layout) (operable CFL)	
9	Identify Potential Resource Conflicts (Resource Interaction Areas) and plans for field examination	
10	Field Examination of Alt. Development schemes (IDT)	
11	Reexamine overall mgmt. objectives and adjust if necessary (redetermine operable timber)	Major Decision Point
12	Develop IDT first entry access and timber harvest scheme that recognize and reflect long range management objectives	
13	Develop and document prescriptions for individual units and roads in first entry	
14	Prioritize first entry units	
15	Develop Alternatives for 5-year period (81-86) and identify preferred Alternative	PROJECT PLANNING
16	Draft EIS	
17	Begin volume est. and collection of data for rate redetermination and layout	
18	Final adjustment of preferred Alt. to accommodate responses to public comments	
19	Final EIS	
20	Implement Plan	

During the winter of 1978-79, the IDT developed a first entry access and harvest plan for the entire East Kuiu Management Area based on the analysis of the 1978 field season findings (Step 12). (By this time, Bay of Pillars had been eliminated as a result of TLMP allocation direction.) Approximately 240 MMbf was identified for the first entry, to be harvested within a 10-30 year span. It was expected that most of this volume, if not all, would be associated with completion of the ALP timber sale contract. Management prescriptions were developed and documented for all proposed units and roads (Step 13). From this first entry plan four alternatives were developed for the 1981-86 operating period. The alternatives are presented in this EIS. A system of harvest unit layout and road development cards was developed by the Stikine Area IDT and are on file in the Stikine Area Forest Supervisor's Office in Petersburg.

The alternative proposed in the DEIS was adjusted in the summer of 1979 to meet the intent of recent NFMA regulations changes with respect to maximum harvest unit size. In addition, all units included in the preferred alternative were examined on-the-ground by specialists to verify and adjust management prescriptions developed in Step 13. The process of collecting data for the rate redetermination approved was also begun.

1/ Detailed soil inventory was completed prior to 1976

III. Planning Alternatives and Recommendations

AREAS CONSIDERED

During the initial stages of the planning process a number of individual areas were found to be undesirable as locations to obtain the 1981-86 period volume. Those areas identified were:

AREA	IDT CONCLUSION
Tebenkof and Pillar Bay (Kuiu)	Following IDT investigation of potential log transfer sites and access routes, the area was deleted as the TLMP and legislative processes progressed. LUD I and II areas from TLMP are not included in the ALP 1981-86 study. Most of these classifications were, anticipated by the IDTs and affected areas deferred in initial planning phases.
Krestof Island	Since portions have been recently harvested, reentry is deferred to later operating periods to reduce impacts on deer.
Fish Bay (Baranof)	Since portions have been recently harvested, re-entry is deferred to later operating periods to reduce impacts on deer.
Range Creek (Baranof), Broad and Broadfinger Creeks (Chichagof)	Require extensive roading in relation to timber volume. Although these costs might be offset by more cost-effective areas, no such off-setting area is presently available and entry was deferred.
Appleton Cove and Saook Bay (Baranof)	Proximity to the Alaska Marine Highway and important wildlife values led to the decision to defer reentry into this area during the 1981-86 operating period.
Middle Arm, Kelp Bay (Baranof)	Difficult terrain with roading problems make deferral desirable.
Pond Island, Kelp Bay (Baranof)	For protection of important deer habitat, including winter range, deferral is desirable at this time.
South Arm, Kelp Bay (Baranof)	For management of extremely important fish, wildlife, recreational, and scenic values, deferral of harvest is desirable. High cost of roading is also a factor.
Upper Freshwater (Chichagof) -	An agreement with Tenakee Springs will close the Sunny Cove log transfer site in 1981. No other feasible log transfer site is available at this time.
Port Beauclere (Kuiu)	Sufficient volume was found to be available in Management Area S0-9. This area can, therefore, be deferred from harvest during this period.
Chicken Creek (Chichagof)	Entry in this drainage was deferred, pending resolution of the Sealaska ANCSA selection in the Humpback-Flynn area.
All VCUs on north Kuiu accessed in 1971-76 and 1976-81.	In order to avoid additional timber harvest activity in areas where land claims under the Alaska Native Claims Settlement Act and Native Allotment Act of 1906 are not yet resolved, the decision to propose further activity in this group of VCU's was deferred pending the determination that timber volume required to meet contract obligations was available in other areas of Kuiu Island.

All A-frame timber operations	All areas requiring A-frame operation were deferred with anticipation that future market conditions will make the higher costs of A-frame logging cost-effective.

Areas included in alternative timber harvest plans are:

Management Area	Drainage
Freshwater Bay (LUDs III & IV)	Freshwater, Hanging Valley, Pavlof Ridge, Kennel Creek, Seal, East Point, Game Creek.
Whitestone Harbor (LUD IV)	Suntaheen, Gartina, Iyoutug
Tenakee Inlet (LUD III and IV)	Salt Lake Bay, Fifteen Mile
Kadashan (LUD III)	Kadashan
Corner Bay (LUD IV)	Trap Bay, So. Passage Point
Crab Bay (LUD IV)	Finger Creek
Kelp Bay (LUD III and IV)	Catherine Island, Portage Peninsula
East Kuiu (LUD IV)	Port Camden, Threemile Arm, Seclusion Harbor, No Name Bay, Alvin Bay/Reid Bay

Description of Alternatives:

A "no action" alternative is a required consideration in any environmental study under the National Environmental Policy Act of 1969. A "no action" decision would maintain the areas under consideration in their present largely roadless and undeveloped state.

Section 15(b) of the National Forest Management Act of 1976 (PL 94-588) validated the long-term timber sale contracts in Alaska. The IDT recognized, therefore, that a "no action" decision on all management areas would violate this national direction. However, a "no action" alternative was considered individually for each management area, resulting in deferral of harvest in a number of management areas or portions of management areas. The specific "no action" decisions are presented in the list on pages 45 through 47.

After the operating areas had been selected, three alternatives were developed and evaluated for the Chatham and four for the Stikine. Alaska Lumber and Pulp Company also prepared an alternative. These alternatives are described below and displayed in the map section (Part 2).

ALTERNATIVE 1 DATA

TABLE 3

Total Volume Identified in Alternative (MMbm)	395
Percent of Operable 1/ Timber To Be Cut by 1986	27
Total Number of Units	156
Average Unit Size	73
Miles of Road	132
Number of Camps	3
Number of Log Transfer Sites	6
Plan Implementation Costs (public investment required) ($ million)	0

1/ Based on TLMP data; includes volume cut in prior operating periods and volume proposed.

ALTERNATIVE #1: This alternative emphasizes timber harvest economics through larger and more concentrated harvest units. Higher risks of adverse impacts occur than with other Chatham alternatives. Alternative #1 includes the following management areas: Whitestone Harbor, Freshwater Bay, Tenakee Inlet, Crab Bay, Corner Bay, Kadashan, and Kelp Bay. This alternative identifies up to 395 MMbm from the sampled area. This alternative has an average unit size of 73 acres and 132 miles of road to provide 395 MMbm. By selecting the most cost effective management areas to provide the 395 MMbm, this alternative could be implemented without additional investment. Alternative #1 would harvest 27 percent of the operable volume identified in these management areas by the Tongass Land Management Plan. Resource impacts are discussed under Section III, along with measures to be taken to mitigate adverse effects. Monitoring is also discussed in Section III.

ALTERNATIVE 2 DATA

TABLE 4

Total Volume Identified in Alternative (MMbm)	395
Percent of Operable 1/ Timber To Be Cut By 1986	20
Total Number of Units	340
Average Unit Size	39
Miles of Road	157
Number of Camps	3
Number of Log Transfer Sites	5
Plan Implementation Costs (public investment required) ($ million)	0

1/ Based on TLMP data; includes volume cut in prior operating period and volume proposed.

ALTERNATIVE #2: This alternative represents a balance between timber harvest economics and environmental protection. Harvest units average 39 acres and 157 miles of road would be required to obtain 395 MMbm.

Although Alternative 2 contains some risks for adverse environmental impacts, the alternative represents a relatively high degree of assurance of meeting the Southeast Alaska Area Guide policies. This alternative was explored for the Whitestone Harbor, Freshwater Bay, Tenakee Inlet, Crab Bay, and Kelp Bay Management Areas. Alternative #2 would harvest 20 percent of the operable volume identified in these management areas by the Tongass Land Management Plan. Resource impacts are discussed under Section III along with measures to be taken to mitigate adverse effects. Monitoring is also discussed in Section III.

ALTERNATIVE 3 DATA

TABLE 5

Total Volume Identified in Alternative (MMbm)	395
Percent of Operable 1/ Timber To Be Cut By 1986	15
Total Number of Units	346
Average Unit Size	35
Miles of Road	236
Number of Camps	6
Number of Log Transfer Sites	9
Plan Implementation Costs (public investment required) ($ million)	6.1

1/ Based on TLMP data; includes volume cut in prior operating periods and volume proposed.

ALTERNATIVE 3: This alternative was developed to emphasize resource protection under the guides of known best management practices (Chatham Area Project Guidelines.) Harvest units average 35 acres and 236 miles of road are required to access 395 MMbm. Since the Tongass Land Management Plan specified that all timber volume (except that set aside for retention) must be harvested over a rotation to provide even flow/sustained yield, some adverse impacts were tolerated. Spreading impacts over several entries has fewer short and long-term adverse environmental effects than harvesting these areas all at once. Alternative 3 was developed for the Whitestone Harbor, Freshwater Bay, Tenakee Inlet, Crab Bay, and Kelp Bay Management Areas. 393 MMbm was identified in this alternative. Based on the sample, the cost of implementing this option would be about $6.1 million to provide 395 MMbm. Alternative 3 would harvest 15 percent of the operable volume identified in these management areas by the Tongass Land Management Plan. Resource impacts are discussed in Section III along with measures to be taken to mitigate adverse effects. Monitoring is also discussed in Section III.

ALTERNATIVE 4 DATA

TABLE 6

Total Volume Identified in Alternative (MMbm)	130
Percent of Operable 1/ Timber To Be Cut By 1986	15
Total Number of Units	83
Average Unit Size	61
Miles of Road	110
Number of Camps	1
Number of Log Transfer Sites	2
Plan Implementation Costs (public investment required) ($ million)	0

1/ Based on TLMP data; includes volume cut in prior operating periods and volume proposed.

Alternative # 4: Timber access roads will be extended throughout the management area from Camden Peninsula, on the north, to Reid Bay. Up to 130 MMbm will be selected for harvest. This alternative utilizes the existing camp and log transfer site at Rowan Bay and provides for the construction of an additional log transfer site in No Name Bay. Average unit size is 61 acres. One Hundred and ten miles of road are required.

ALTERNATIVE 5 DATA

TABLE 7

Total Volume Identified in Alternative (MMbm)	130
Percent of Operable 1/ Timber To Be Cut By 1986	15
Total Number of Units	83
Average Unit Size	61
Miles of Road	111
Number of Camps	1
Number of Log Transfer Sites	3
Plan Implementation Costs (public investment required) ($ million)	0

1/ Based on TLMP data; includes volume cut in prior operating periods and volume proposed.

Alternative # 5: Timber access roads will be extended throughout the management area from Camden Peninsula, on the north, to Reid Bay. Up to 130 MMbm will be selected for harvest. The alternative utilizes the existing camp and transfer site at Rowan Bay. New log transfer sites will be located in No Name Bay and Port Camden. Average unit size is 61 acres. One hundred and eleven miles of road are required.

ALTERNATIVE 6 DATA

TABLE 8

Total Volume Identified in Alternative (MMbm)	130
Percent of Operable 1/ Timber To Be Cut By 1986	15
Total Number of Units	61
Average Unit Size	90
Miles of road	100
Number of Camps	1
Number of Log Transfer Sites	1
Plan Implementation Costs (public investment required) ($ million)	0

1/ Based on TLMP data; includes volume cut in prior operating periods and volume proposed.

Alternative # 6: Timber access roads will be limited to serve a smaller area immediately south and east of the area included in the 1976-81 operating plan, Camden Peninsula south to approximately the headwaters of Seclusion Harbor. Up to 130 MMbm will be selected for harvest. Only the existing camp and log transfer site at Rowan Bay is used in this alternative. Average unit size is 90 acres. One hundred miles of road are required.

ALTERNATIVE 7 DATA

TABLE 9

Total Volume Identified in Alternative (MMbm)	130
Percent of Operable 1/ Timber To Be Cut By 1986	15
Total Number of Units	61
Average Unit Size	90
Miles of Road	100
Number of Camps	1
Number of Log Transfer Sites	2
Plan Implementation Costs (public investment required) ($ million)	0

1/ Based on TLMP data; includes volume cut in prior operating periods and volume proposed.

Alternative 7: Timber access roads will be limited to serve a smaller area immediately south and east of the area included in the 197681 operating plan, Camden Peninsula south to approximately the headwaters of Seclusion Harbor. Up to 130 MMbm will be selected for harvest. The existing log transfer site at Rowan Bay would be used. A new log transfer site will be located in Port Camden. Average unit size is 90 acres. One hundred miles of road are required.

ALTERNATIVE 8 DATA

TABLE 10

Total Volume Identified in Alternative (MMbm)	554
Percent of Operable 1/ Timber To Be Cut By 1986	29
Total Number of Units	291
Average Unit Size	68
Miles of Road	8
Number of Log Transfer Sites	9
Plan Implementation Costs (public investment required) ($ million)	0

1/ Based on TLMP data; includes volume cut in prior operating periods and volume proposed.

Alternative 8: Alaska Lumber and Pulp Co., Inc. 1981-86 Logging Proposal.

The Unit Design Criteria presented by ALP as the basis for their proposal was:

1. Unit Size

Attempt to keep units approximately 100 acres in size, ±.

2. Minimum Volumes

a. Hi-lead area use 15Mper acre minimum
b. Skyline area use 25M per acre minimum

3. Maximum Yarding Distance

a. Hi-lead to 1000 feet ± 200 feet
b. Skyline to 1800 feet ± 200 feet

4. Fish Protection

a. USFS will have photo and/or on the ground review.

b. Log to one side of creek only per entry - assuming two entries.

c. Avoid slide prone areas that could slide into a fish stream.

d. All units photo reviewed by consulting biologist.

e. Log to no more than 25% of the banks of major fish streams,pending on-site review.

5. Wildlife Protection

a. Avoid known eagle trees on photo and field layout.

b. Provide wildlife corridors from ridge top to valley bottoms and along at least one side of valley bottom streams, taking natural existing corridors and at least two entries into account.

c. Avoid concentration of units in deer winter ranges, especially old growth beach fringe.

d. Leave a beach fringe buffer strip along all beach where timber fringe exists.

e. All units photo reviewed by consulting biologist.

f. Attempt to reduce unit size and/or number on south aspect slopes in areas considered deer winter and intermediate range.

6. Landscaping

a. Avoid straight lines using natural timber types and openings to obtain wind firm boundaries.

b. Leave strips should be located so as to allow finger ridges to express themselves - keeping windfirmness of leave trees in mind. Avoid excessive or large beach units especially on ferry routes.

7. Leave Strips

a. Attempt to leave 1000 feet using windfirmness and natural wildlife corridors when possible.

b. Wider or narrower strips will be used when it appears necessary to obtain a windfirm leave area, especially when the leave strip is perpendicular to strong winds.

c. Leave strips are potential future logging units; therefore an attempt has been made to leave logical settings.

8. Soils Protection

a. Attempt to avoid excessively steep slopes especially when dissected with V-notches.
b. USFS specialists will have photo and/or on the ground review.

9. Archeological Sites

a. Will be protected.
b. Avoid location of road and units on known archeological sites.
c. USFS specialists will have photo and/or on the ground review.

This alternative provides 554 MMbm from the Whitestone Harbor, Freshwater Bay, Tenakee Inlet, Kadashan, Trap Bay, and East Kuiu Management Areas. This alternative would harvest 28 percent of the operable volume identified in these management areas identified by the Tongass Land Management Plan. Resource impacts are addressed in Section IIID.

ALTERNATIVE 9 DATA
PREFERRED ALTERNATIVE TABLE 11

	ANTICIPATED NEW HARVEST	TOTAL PLANNED
Total Volume Identified in Alternative (MMbm)	452 1/	641
Percent of Operable 2/ Timber To Be Cut By 1986	22	30
Total Number of Units	335	467
Average Unit Size	48	48
Miles of Road	280	
Number of Camps	8	8
Number of Log Transfer Sites	9	9
Plan Implementation Costs (public investment required) ($ million)	5.6 3/	

1/ Anticipated new harvest required to meet contract commitments based on estimate made in Feb., 1980.

2/ Based on TLMP data.

3/ Based on third quarter 1979 appraisal data and includes base rate return to the government.

Effects of Implementation

1. Effects Similar to All Alternatives

Activities associated with timber harvesting and roading in southeast Alaska commonly have some attendant impact to resources. Impacts can be minimized or avoided altogether through good planning and the location and design of the project.

The following discussion addresses direct, indirect, cumulative, and unavoidable effects and long and short-term relationships in the use of man's environment and productivity. Significant differences of opinion about the kind, amount, and/or duration of effects are not always obvious in this section but are apparent in individual responses to the DEIS and Forest Service comments relative thereto (See Appendix).

Aside from manipulation of plant cover, the irreversible or irretrievable effects necessarily resulting from this action are the modification of soil and rock required for road construction. In addition, small areas of the intertidal zone will be filled to construct log transfer facilities.

a. Soils

Timber harvest activities may adversely or beneficially impact the soil resource.

Adverse impacts result when logging activities increase erosion. This may occur in the form of accelerated mass wasting, surface erosion or streambank erosion. Harvest operations effect slope stability by changing stresses and strengths on the slope. Common occurrences are reducing soil strengths by road cut banks, more water passing through the soil and losses of rooting strengths as tree roots deteriorate or increasing stresses due to blowdown and road construction. Timber harvest also reduces stress when the weight of the tree is removed from the slope. Most of these changes are reversed as the slopes become revegetated. Soils in the sale area are for the most part, very resistant to surface erosion, owing to the thick organic mat protecting the mineral soil. However, accelerated surface erosion may result where this protective mat does not exist as in stream channels, on roads, on mass failure scars or where the organic mat is removed during logging or from concentrating water runoff. Not all areas of accelerated erosion cause increases in stream sedimentation, due to proximity to stream courses. Some disturbance may be beneficial through thinning the regeneration with a net increase in site timber production.

Most adverse impacts can be avoided through controlled management practices. These include avoiding harvest areas or road cut banks where it is determined that reductions in slope strengths may be critical or where a road will critically overload a slope. Slopes exceeding 35% and 75% require review for roading and timber harvest respectively. Accelerated surface erosion from roads is minimized and mitigated by proper road location and design (including run-off controls), control of construction materials and grass seeding. Accelerated erosion on stream banks is avoided or minimized by avoiding disturbances to the stream channel. Of particular concern are areas where blowdown may occur. Blowdown along streambanks may cause extreme accelerated stream erosion. Timber harvest along V-notches receives special consideration for minimizing disturbance. Directional falling, partial or full suspension and multiple settings are often required. Minimizing the disturbance of the organic mat during harvest is accomplished by controlling yarding such as avoiding "blind lead settings", requiring adequate deflection or lift or controlling the volume of timber yarded over a given area.

Beneficial impacts occur when young, fast growing trees replace the older slower growing trees, thus allowing the potential of the soils to be better expressed. It is also conceivable that since the younger trees are faster growing, less nutrients will be lost through leaching. This could lead to an overall increase in site productivity.

b. Water Resources

Timber harvesting activity will affect surface water quantity and quality. Harvesting removes most of the transpiring plants in the harvested area, allowing soil water to be near or at field moisture capacity. A given storm has potential of increasing runoff, since the soil water storage component is usually satisfied. The hydrologic response and peak discharge may increase.

Research results from experimental watersheds in 11 locations from north coastal California to British Columbia have illustrated changes in streamflow after timber harvest. Annual water yields have increased up to 24.4 inches; some summer low flows have quadrupled; and size of peak flows have increased, decreased, or remained unchanged in small headwater basins.

Increases in annual water yield and summer flows may be predicted elsewhere, but such data is not fully available yet for southeast Alaska. The capability of predicting changes in higher flows is hindered by a lack of understanding of subsurface water flow and runoff production during winter storms and rain-on-snow events and how each is affected by timber harvesting activities. Neither increased water yield or summer flows have any influence on channel erosion processes in the rain-dominated portion of the Pacific Northwest (Harr, unpublished data, 1979).

Timber harvesting can affect water quality in several ways. Sediment loads in streams may increase from roads and bared soil areas. Impacts from roads can be reduced considerably by location selection, thoughtful design and careful construction. When unforeseen problems in location or design result in sedimentation problems, prompt revegetation and other bank stabilization measures will be applied. Prior identification of potential problems and avoidance of these problems in location, design, construction and maintenance of roads is invariably superior to mitigation for reducing impacts.

Summer water temperatures can increase during low flows when streamside vegetation is removed, depending on cutting unit shape, aspect, solar radiation, and stream bottom material type. It has been hypothesized that increased summer streamflow temperatures may actually increase the stream's primary production. Conversely, winter stream temperatures will decrease in some streams and form anchor ice which decreases flow within the gravel bed.

Quantification of harvesting impacts to the water resource quantity and quality is difficult. The logistical problems of year-round measurements and the inherent variability of water quality measurements, make statistical or significant differences difficult to ascertain for areas that were not initially designed and developed as experimental sites. Such experimental sites have only recently been established (since 1977) and data collection is not complete.

Water chemistry can be affected to varying extents. Water chemistry data from disturbed and undisturbed watersheds is being collected from several monitoring stations. Present data suggests that water quality changes are difficult to detect and that nutrient concentrations are site specific and streamflow event specific. It has been hypothesized that increased surface water concentrations may increase a stream's primary production. Blanket statements of water quality impacts from forest harvesting activities are not possible or plausible.

c. Air Quality

Since pulp processing requires full pulp mill operation, there are no differences in impacts to air quality stemming from any alternatives (except "no action" in all management areas). Although the sawmills served by the ALP long term sale do not require full operation to maintain processing, it is assumed that air quality impacts will remain constant throughout the operating period.

Within the timber harvesting areas, operation of camps, machinery, road equipment, and blasting will introduce air pollution of short term duration and at levels similar in all alternatives.

d. Silviculture

Vegetational succession will be altered by harvest in all alternatives. Information on forest succession and impacts is presented in the Forest Ecosystem of Southeast Alaska: 7 Forest Ecology and Timber Management (USDA - Forest Service and Timber Management (USDA - Forest Service Technical Report PNW-25).

The majority of the stands proposed for harvest during this period are overmature (200- 400 years old). For purposes of increasing the timber resource on a limited land base allocated for harvest, it is advantageous to convert these stands to new growth. Growth rate, on these stands will change from approximately zero to about 200 cubic feet per acre per year. This objective of enhancing timber production sites through silvicultural practices reflects TLMP direction and assumes timber stand improvement activities at future intervals. See discussion of Preferred Alternative (Section III) for proposed silvicultural practices.

Partial cutting is done in immature stands to promote growth on remaining trees and to influence stand development, however, most of the timber harvested during the 1981-86 ALP operating period will be clearcut. Clearcutting is the predominant method of regeneration cutting in southeast Alaska and in the entire Sitka spruce-western hemlock type. The reasons for this are many. Among them are the following:

1. Most old growth stands in the proposed 1981-86 areas are in climax or near climax successional condition. They are generally defective and have lower vigor than younger stands. Clearcutting and the establishment of a new stand are more feasible than trying to improve an old-growth stand by some form of partial cutting.

2. Clearcutting allows more solar radiation to reach the forest floor, raising soil temperature and increasing the growth of vigorous seedlings. Soil temperatures in southeast Alaska are low, averaging within 10 degrees of the recognized lower limit of biological activity. A few degrees increase, achieved by clearcutting, promotes seedling growth.

3. Windthrow can be a greater problem in partial cutting than in clearcutting.

4. Clearcutting, including removal of infected seedlings, is the most effective means known for eliminating dwarf mistletoe. This parasite is very common in the proposed 1981-86 areas.

5. Clearcutting usually increases the amount of Sitka spruce in the stand which is a more valuable species at this time than hemlock. In addition, an increase in the amount of spruce helps promote stand improvement. 1/

The advantages of clearcutting in hemlock-spruce forest over forms of partial cutting are documented in various publications. For more information, see the Forest Ecosystem of Southeast Alaska, #7, referenced above.

e. Wildlife

Timber operations in southeast Alaska cannot be accomplished without causing ecological changes in wildlife habitat both at the time of harvesting and throughout the life of the rotation. The degree of effects varies between species according to the successional stages occurring after cutting. Some wildlife species may benefit from these changes while others experience adverse impacts. The magnitude of impacts depends upon the location, size, timing, shape, and distribution of the clearcuts (Leopold and Barrett, 1972). The extent of associated developments, such as roading, log transfer sites, camps, and rock pits, also determines impacts on wildlife.

For some groups of wildlife, such as certain small mammals and birds, alteration of vegetation results in a change of species diversity. While some wildlife species benefit from modifications of the existing habitat, many of the species in southeast Alaska are most adapted to old-growth spruce hemlock stands. Converting these stands to even-aged, second growth means a reduction in the amount of habitat available for these species. This reduction is cumulative, as more timber is scheduled for harvest in future entries in drainages already sustaining past or present timber harvesting. This consideration was addressed by the Tongass Land Management plan with substantial allocation to LUD I and II and retention factors established (see Figure 1 for these LUD I and II areas). TLMP decisions assure substantial old-growth for those species requiring this habitat.

Sitka blacktailed deer are one of the species dependent on old-growth timber. The continuing cycle of regeneration and death of individual trees in the climax, uneven-aged spruce-hemlock stands provides food and cover which is optimum for the maintenance of deer populations in this, the northern limit of their range. These mixed-aged mature forests have a greater variety of evergreen forbs and palatable shrubs than even-aged, submature forests which exist after logging. Moreover, in winter periods, climax forests provide the greatest protection from snow accumulation, making forage more available.

Forage in cutover areas is unavailable for deer use during periods of deep snow accumulation (Bunnel, 1979; Weger, 1977). Studies in coastal forests of southeast Alaska and British Columbia show that harvested areas (including second growth stands) receive substantially less deer use throughout the year than the old growth stands (Hebert, 1979; Jones, 1975; Schoen, 1978; Schoen and Wallmo, 1979). Harvesting timber at lower elevations has the greatest potential of adverse impact because of winter concentrations of deer in these areas (Barrett, 1979). Studies in progress indicate that if a highly diverse and productive understory layer is a management goal, simple forest structural manipulations such as thinning may give varying degrees of success depending on its intensity (Alaback, 1979).

For further information concerning impacts of cutting mature forests on other animals dependent on old-growth vegetation, such as marten, certain small mammals and many insectivorous birds, see the Wildlife Specialist Report, 1981-86 Operation Period.

As a means of insuring protection of critical wildlife habitats (those requiring the highest percentages of habitat to be maintained), retention areas have been identified in all alternatives, within which no timber units have been planned. Retention areas exist primarily to protect critical deer winter range and estuarine zones. However, other wildlife, fish, and amenity resources accrue benefits.

A wildlife biologist will be a member of any IDT that investigates wildlife habitat, including retention areas and any other sensitive wildlife areas. Habitat protection measures and prescriptions are recorded in "Field Management Forms" on file with Stikine and Chatham USFS offices.

Other mitigation measures which will benefit several wildlife species are the maintenance of blocks of timber between units. These serve as corridors for large or small animals that seek the shelter of timber. This "leave" timber also provides old-growth vegetation for those species that require it for food and/or shelter.

Beavers are found in both the Stikine and Chatham sale areas

1/ The role of Sitka spruce in the development of second growth in Southeastern Alaska, J. Forestry, 27 5:532-534

f. Fish

The harvest of timber poses various degrees of effects on fish habitat and fish production. The Forest Service recognizes this and believes that timber harvest plans, conscientiously developed and carried out, reduces many of the adverse impacts. Harvest unit location, design and logging methods, stream crossings, and road locations incorporate fisheries habitat protection measures. In addition, the plan requires further examination and prescription by teams of fisheries biologists, hydrologists, soil scientists and logging systems specialists in specified harvest units where fisheries values and risk of impact are the highest. Removal of selected areas of streamside canopy and low levels of sediment from a heavily used road system will influence the complex biological regime of adjacent streams, but the diligent application of site specific stream protection measures during the layout and administration phases should reduce the influences to a minimum.

Change in the stream ecosystem will occur when stream bank vegetation is cut. Stream biota, including fishes, have evolved utilizing the streams physical and chemical characteristics; and they are adapted to their terrestrial, as well as their aquatic, environment. Most of the energy inputs to forest streams enter as organic detritus from the terrestrial system. Terrestrial vegetation also provides streambank stability, acts as a sediment and logging debris filter, and helps regulate temperature regimes and the amount of sunlight reaching the stream. Removal of riparian timber will have a significant influence on the stream ecosystem, ultimately affecting fish and benthic macroinvertebrate species diversity and total biomass. The ecosystem will re-establish itself after streamside regrowth occurs.

Impacts are less when only one side of a stream is cut, and the edge is a windfirm boundary. If windfirm leave strips are provided, impacts are expected to be minimal. All alternatives contain some harvest on one or both sides of the stream in salmon spawning habitat.

Some streams are sensitive to changes in winter stream temperatures induced by streamside harvest. Induced changes in stream temperatures by removal of riparian vegetation may be detrimental to fish production.

The location of the road, design, construction materials, care in design and installation of drainage structures, and quality of road maintenance can drastically influence the impacts on fisheries. Sediment entering streams from logging roads has been shown to adversely affect fish, benthic macroinvertebrates, and their habitat.

A variety of changes to estuarine habitat can negatively affect Dungeness crab. As larvae, they are particularly susceptible to changes in water quality. Immediately after moulting, crabs bury themselves to avoid predators. During the few days required for the new shell to harden, crabs are more vulnerable to environmental change because of their immobility. These factors must be considered in planning for upland and shoreline development, as well as marine log storage.

Where problem areas have been identified, impacts to fish resources can substantially be reduced during IDT field reviews and incorporating modifications in cutting unit boundaries, road locations, prescribed logging systems, etc.

Interdisciplinary Teams examined prooosed cutting units, road locations, stream crossing sites and proposed structures, landings, proposed rock pit and rock borrow sites, camp locations, log transfer and upland log storage sites, rafting locations, and other proposed activities which might affect fish habitat. Due to the smaller size of the East Kuiu Management Area, and the availability of specialists, some priority sites received on-the-ground review by specialists. Fish Habitat Management Units, and especially Fish Habitat Sensitivity Zones, Estuarine Habitat Management Units, and Estuarine Habitat Sensitivity Zones indicate areas most likely impacted by timber harvest.

The quantity, quality, and sensitivity of fish habitat to development are subjects for field review. The degree and extent of habitat protection in these areas will depend on field administration of IDT recommendations. A fishery biologist will be a member of any IDT that investigates fish habitat.

Prescriptions that are necessary to mitigate impacts or to monitor activities will be recommended by the IDT. A fisheries biologist will be present when leave strips are laid out for fisheries protection as well as when any identified impacting activities to fish habitat occur. All Fish Habitat and Estuarine Areas will be reviewed for specific stream protection measures and recorded in "Field Management Forms" on file with Stikine and Chatham Forest Service offices.

The Forest Service is involved in various programs which enhance fish habitat . Such programs include construction of fish ladders over stream barriers to fish migration, steam debris removal, lake enrichment to improve sockeye salmon production, and lake stocking to utilize barren lakes for coho salmon rearing. Several enhancement sites occur within the 1981-86 management areas. Most of the enhancement projects are made possible by the Forest Service road system. More information on these planned projects is available from the Forest Service Fish and Wildlife Program Managers in Sitka and Petersburg.

g. Visual and Recreation

The recreational goal of the Tongass Land Management Plan is to provide a broad spectrum of recreation opportunities. Natural areas with the highest wildlife, sport fish, and dispersed recreation assets were generally allocated to land use designations which would protect these resources. Other areas were allocated to satisfy resource development needs of the National forest.

Development proposed during the 1931-86 operating period will result in a loss of recreational opportunities associated with a natural wildland experience. Activities associated with logging camp life, road building, logging, hauling and rafting of logs all tend to displace recreation uses requiring solitude and natural environment. After harvesting is completed, solitude returns to the area as the people and facilities are removed. Those recreation activities that are facilitated by the remaining roads and vegetative changes are then available in a relatively isolated environment.

As revegetation of cutting units and spur roads occurs and the physical logging effects are healed, more of the semi-primitive recreation qualities return. Areas that are being maintained on a multiple-entry concept along maintained road systems can be expected to be under constant development while connecting areas are periodically developed.

Timber harvest operations cannot be accomplished in southeast Alaska without affecting the inherent natural qualities of the landscape. The degree of impact is dependent upon the location, size, shape, and intensity of clearcut harvest units and associated developments such as camps, roads, rock pits, and log transfer sites. Cutting units located adjacent to major travel routes and recreation areas have a greater adverse impact due to the associated high viewer sensitivity than those located in areas less frequently seen.

Consequently, cutting units are designed to harmonize with the natural landscape when viewed as middleground and background from Alaska Marine Highway ferries and tourships. In many areas, this landscape design has also been followed along small boat waterways.

Harvest operations result in both short-term and long-term adverse impacts. Short-term impacts result from the sharp visual contrast in color and texture between harvested areas and the existing landscape. Long-term adverse impacts result from loss of natural qualities inherent in the landscape through successive entries in future operating periods.

Timber harvest operations expand opportunities for dispersed recreation in southeast Alaska. Logging roads can be designed to provide recreational access to inland areas, expanding opportunities for hunting, fishing, hiking in scenic alpine areas, gathering edible plants, and other recreational pursuits.

h. Cultural

There are no identified impacts on cultural resources. Because complete research on all proposed areas is not feasible, steps have been established under which resources can be protected under all alternatives. Most of the proposed log transfer sites have been examined on a reconnaissance level; those at which no cultural resources were found have been given clearance. Intensive and intermediate surveillance of other sites will be conducted when harvest areas are determined.

In areas where construction with subsurface disturbance will take place, impact on uncharted cultural sites is highly possible. If a cultural site is found, immediate actions will be taken to avoid impact. Areas where clearcutting is proposed are of less concern since below-ground disturbance is minimal. An archeological survey of the chosen alternative will be conducted as shown in Table 12.

Table 12: Archeological Survey Requirements

TYPE OF IMPACT	PROJECT	ARCHEOLOGICAL POTENTIAL		
		HIGH	MODERATE	LOW
DIRECT	Road Corridors	Complete Survey	Sample Survey	Sample Survey
	All Other Specific Sites of Disturbance	Complete Survey	Complete Survey	Complete Survey
INDIRECT	Cutting Units and Other Dispersed Impact	Sample Survey	Sample Survey	Sample Survey

Effects of Alternatives

Alternative 1

a. Soils

Some slopes having high mass failure potentials would be harvested if this plan were implemented. This alternative also contains the greatest number of potential slope failures which could enter fish streams. Roading into Seal Creek would occur over clay soils on steep slopes. This would require special roading measures to minimize failure potentials. There are also a number of units containing V-notches or located on alluvial flood plains or fans that will be hard to protect adequately from surface disturbances. Because these problems are concentrated in the watersheds, sediment introduction into individual streams could be high.

There are fewer total miles of road than in Alternatives 2 or 3, but within the drainages entered, roading is similar.

b. Water

Concentration of harvest units in the highest volume timber has resulted in more extensive harvesting to the stream edge than in Alternatives 2 or 3. Canopy removal on both sides of the stream may result in greater accumulation of logging debris in the stream (the contract requires that this be removed). Canopy removal on streams with a south to southwest exposure may increase water temperature during the summer months. Conversely, the winter temperature of any stream may be decreased by canopy removal.

Larger and more concentrated harvest units in this alternative may result in increased runoff.

Roads have been identified as the major source of suspended sediment from forest management activities. This alternative would require the least amount of roading.

c. Silviculture

This alternative contains the largest average unit sizes and, therefore, provides for the best mistletoe control and lowest probability of timber loss through blowdown.

d. Wildlife

Alternative 1 poses the greatest potential for adverse impact to wildlife through the largest average unit size (about 73 acres) and the closest proximity of units of any of the alternatives. Most of the units are separated from each other by small leave strips, often inadequate as wildlife travel corridors because of small size or physical barriers. In addition, many strips may be susceptible to future windthrow which will lessen their value for most wildlife. In reality, many Alternative 1 units should be examined as groups or clusters of units with potential impacts comparable to single large units. The cumulative impacts of such harvesting could result in the reduction of localized populations of those animals dependent on the old-growth forest such as deer, marten, and certain small mammals and birds both immediately after cutting and for the life of the rotation. This type of harvesting also reduces habitat diversity and thus lowers the quality of the overall wildlife habitat. In addition, this alternative has the greatest number of individual units with a high probability of adverse impact on wildlife. This alternative includes units in deer winter range; in close proximity to estuarine flats or otherwise encroaching on sensitive or critical wildlife habitat zones; and units that block natural travel corridors.

e. Fish

In preparing this alternative fisheries habitat protection measures were employed to avoid only the most severe adverse impacts. Fish habitat sensitivity zones were not generally avoided and more fish habitat sensitivity zones were planned for harvest than any other alternative (see Table 13 page 39,). Timber was planned for harvest along one or both sides of mainstem streams important for salmonid spawning and rearing, again the highest of any of the alternatives. Some flood plains and areas with a high density of rearing streams were planned

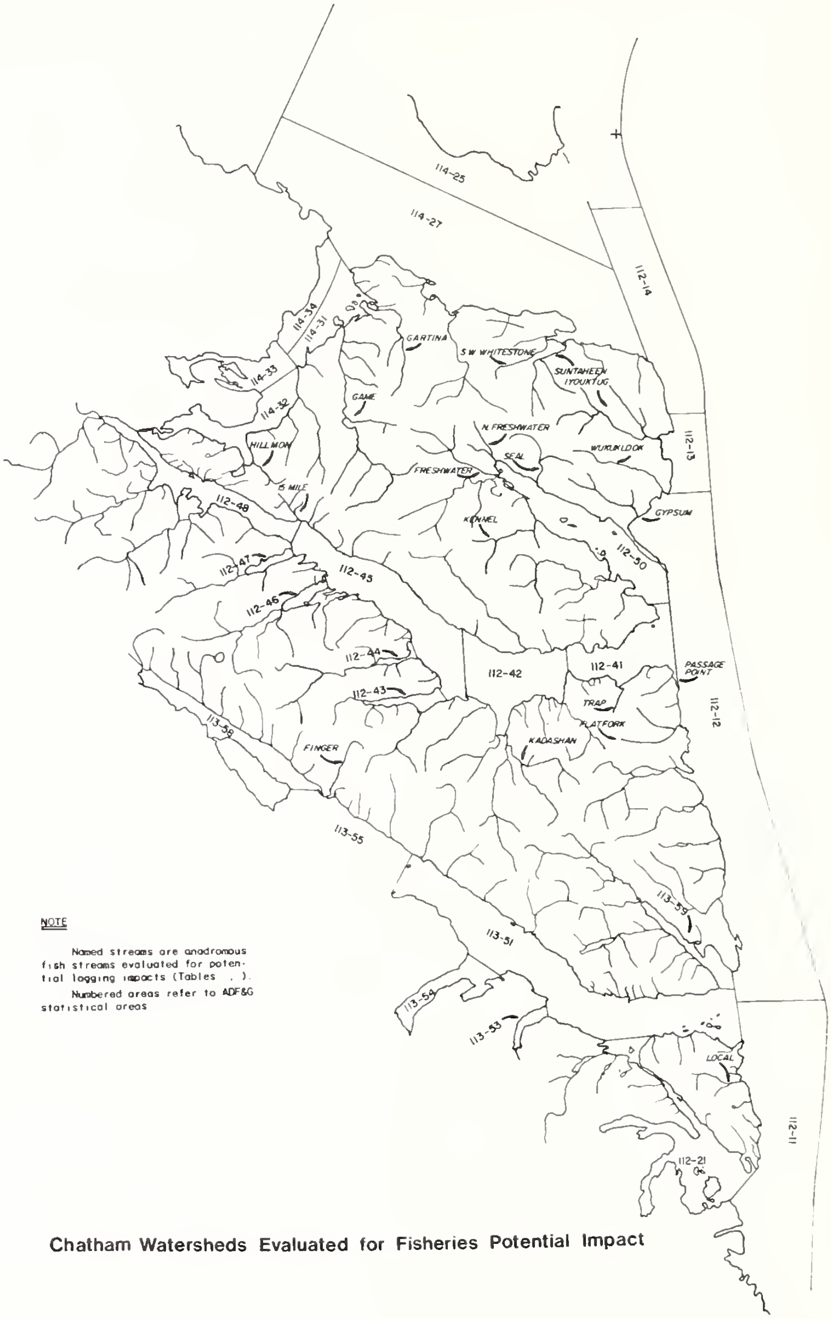
KEY FOR TABLES

FISHERIES DATA PER WATERSHED

Column	Data Provided
1	The watershed areas were determined with a polar planimeter on 1:63,360 maps.
2	Percent of watershed proposed for logging is area in a watershed to be logged divided by the total area of that watershed.
3	Total stream length comprises known and suspected fish habitat above and below barriers to fish passage. Stream lengths were measured on 1:63,360 maps.
4	Percent of total stream length with proposed logging along either one or two sides of the stream.
5	Percent of total stream length proposed to be cut on both sides.
6	Total acreage of Fish Habitat Management Units (FHMU), estimated from inspection of each proposed cutting unit on aerial photographs. In the context of this study, a FHMU is an area, within a proposed cutting unit, that contains salmonid (resident and anadromous) fish habitat and uplands in which development will likely affect fish habitat.
7	Percent of the total area proposed for logging that comprises FHMU.
8	Total acreage of Fish Habitat Sensitivity Zones (FHSZ) estimated from inspection of each proposed cutting unit on aerial photographs. In the context of this study, a FHSZ is an area, within a proposed cutting unit or at a bridge site, that contains salmonid (resident and anadromous) habitat that is important or critical for fish production and/or sensitive to development activities.
9	Percent of the total area proposed for logging that comprises FHSZ.

Table 13 - Fisheries Data Per Watershed Alternative #1

STREAM NAME	ADF&G AREA	WATERSHED AREA (MI.^{2}) 1	HARVESTED (PERCENT) 2	STREAM LENGTH (MI.) 3	% OF STREAM CUT ON 1 OR BOTH SIDES 4	% OF STREAM CUT ON 2 SIDES 5	ACHRES CUT IN FHMU 6	% OF HARVEST IN FHMU 7	ACRES CUT IN FHSZ 8	% OF HARVEST·IN FHSZ 9
Kadashan	112-42-25	23	11	14	38	28	1240	18	279	79
Freshwater	112-50-30	39	3	27	4	2	126	6	43	16
Game Creek	114-31-13	49	12	28	42	9	1642	14	527	44
Kennel Creek	112-50-20	13	14	7	24	11	0	0	0	0
Flat Fork	112-12-34	8	14	6	27	24	375	23	166	52
Suntaheen	114-27-15	14	16	8	50	0	610	18	242	44
Seal Creek	112-50-38	12	12	8	27	20	234	5	47	26
Gartina	114-31-9	8	31	6	18	3	571	8	127	36
Local Creek	112-11-15	6	20	3	31	18	216	4	31	26
Finger Creek	113-55-1	8	12.7	4	13	0	87	2	41	14
N. Freshwater	112-50-32	15	4.6	4	43	4	66	5	17	29
SW. Freshwater	114-27-18	6	22	0	35	0	453	15	124	56
Hillmon	118-32-16	4	17	3	4	0	32	1	3	8
Passage Pt.	112-41-1	3	21	2	45	45	92	6	22	26
5 Mile	112-45-1	5	9	3	0	0	0	0	0	0



NOTE

Named streams are anadromous fish streams evaluated for potential logging impacts (Tables ,).

Numbered areas refer to ADF&G statistical areas

Chatham Watersheds Evaluated for Fisheries Potential Impact

for harvest. A high percentage of fish habitat management units were planned for logging. If Alternative 1 were implemented, projected impacts to the fishery resource would be the highest of the three Chatham alternatives. Some of the potential impacts could be lessened by intensive participation of a biologist during unit layout, location of roads, log transfer sites, and landings. The biologist's input would be necessary in all phases of the timber plan and is expected to be more important and time consuming than in any of the other alternatives. The potential for significant impacts to the fishery resource is high.

f. Visual and Recreation

The proposed harvest and related management activities in Alternative 1 would have a higher adverse impact on the aesthetic quality of the management areas included than other alternatives. The proposed Visual Quality Objective (VQO) of maximum modification fails to manage the visual resource by overlooking established recreational use patterns and the aesthetic qualities of the natural landscape.

There are both short-term and long-term potential negative effects associated with this alternative. Short-term effects would result from the intense visual contrasts in color and texture following timber harvest. However, this impact could be significantly reduced in highly sensitive areas by the burning of slash and debris remaining in the harvest areas. Long-term effects would result from the loss of the inherent natural qualities of the landscape associated with the intensity and size of proposed clearcut harvest units. Many of the proposed units in the Whitestone Harbor, Freshwater Bay, and Tenakee Inlet Management Areas would be classified as unacceptable modification of the natural landscape, thus failing to meet even the proposed VQO of maximum modification.

The positive effects associated with this alternative are derived from the proposed logging roads throughout the operating areas. These roads would provide access to interior land areas, thus expanding opportunities for some forms of dispersed recreation.

Alternative 2

a. Soils

Some slopes having high mass failure potentials would be harvested by this plan. However, very few of these would have direct impact into fish streams. The probability of a mass failure into a fish stream is much lower than in Alternative 1.

There are about as many areas containing sensitive V-notches as in Alternative 1 but fewer total acres of floodplain or alluvial fans. Soil erosion losses should be similar to Alternative 1, but because units are dispersed and the high potential slide areas located only where they will not enter streams, impacts on fish habitat and water quality are expected to be lower.

b. Water

Timber harvest is planned in smaller units than Alternative 1 and would reduce the need to harvest streamside timber. This would help maintain stream integrity. Timber and other vegetation left undisturbed along the stream in windfirm situations may reduce logging slash from entering the stream and could maintain streambank stability. Leave strips will moderate water temperatures and filter sediment from runoff waters.

c. Silviculture

This alternative minimizes the benefits of timber harvest for mistletoe control. Smaller units expose more area for blowdown.

d. Wildlife

This alternative has the second smallest average unit size (about 39 acres) and the second highest number of units of any of the alternatives. This is a result of dividing some of the larger units of Alternative 1 into smaller units. Another feature of this alternative is the irregular shape of units with fingers of "leave" vegetation that extend into the units. This results in more "edge" occurring per given acre of clearcut. There is a greater mix of vegetative types (and, therefore, habitat). Habitat diversity is better maintained with this harvest approach than with the more concentrated approach of Alternative 1. This alternative proposes fewer units with potential for adverse impacts to wildlife habitat than in Alternative 1 but enters management areas that are deferred in Alternative 1. This would mean construction of more timber related facilities during this five-year operating period. Dispersal of timber operations over time and space reduces the localized impacts and provides for more habitat diversity.

e. Fish

In Alternative 2, Fish Habitat Sensitivity Zones were avoided in some areas but entered in others. Few streamside leave strips were included. About 12 percent of stream lengths were cut along both banks which is less than Alternative 1 but much greater than Alternative 3. Table 14 displays stream-by-stream differences. Some important flood plains were protected in areas where soil erosion hazards are high; others were planned to be harvested. Projected impacts to fish habitat are expected to be intermediate between Alternative 1 and 3 if this alternative is implemented. The need for biologist participation is expected to be less than for Alternative 1 but greater than for Alternative 3.

f. Visual and Recreation

Alternative 2 poses minimal negative impacts on the aesthetic quality of the management areas included. Short-term negative effects include moderate contrasts in color and texture of the landscape following timber harvest. This impact could be significantly reduced on highly sensitive areas as discussed in Alternative 1. Long-term negative effects would result from the proposed clearcut units which would not meet inventoried Visual Quality Objectives. However, it should be noted that many of these units were designed to minimize windthrow hazards.

The positive effects associated with this alternative are significant due to the adopted Visual Quality Objectives which would manage the visual resource for viewer sensitivity associated with the communities of Hoonah, Tenakee Springs and Angoon. The landscape viewed from the Alaska Marine Highway and tour ships routes would also be managed to protect important aesthetic qualities. In addition, opportunities for increased dispersed recreation would result from the proposed road access to inland areas.

Alternative 3

a. Soils

Although this alternative contained as many harvest areas having mass failure potential, the risk of failure or of failures entering streams was not deemed as high as in either Alternative 1 or 2. Harvest units having V-notch disturbance problems are about equal in area to those in Alternatives 1 and 2, but there are fewer units on alluvial floodplains or fans than in either of the other alternatives.

KEY FOR TABLES FISHERIES DATA PER WATERSHED

Column	Data Provided
1	The watershed areas were determined with a polar planimeter on 1:63,360 maps.
2	Percent of watershed proposed for logging is area in a watershed to be logged divided by the total area of that watershed.
3	Total stream length comprises known and suspected fish habitat above and below barriers to fish passage. Stream lengths were measured on 1:63,360 maps.
4	Percent of total stream length with proposed logging along either one or two sides of the stream.
5	Percent of total stream length proposed to be cut on both sides.
6	Total acreage of Fish Habitat Management Units (FHMU), estimated from inspection of each proposed cutting unit on aerial photographs. In the context of this study, a FHMU is an area, within a proposed cutting unit, that contains salmonid (resident and anadromous) fish habitat and uplands in which development will likely affect fish habitat.
7	Percent of the total area proposed for logging that comprises FHMU.
8	Total acreage of Fish Habitat Sensitivity Zones (FHSZ) estimated from inspection of each proposed cutting unit on aerial photographs. In the context of this study, a FHSZ is an area, within a proposed cutting unit or at a bridge site, that contains salmonid (resident and anadromous) habitat that is important or critical for fish production and/or sensitive to development activities.
9	Percent of the total area proposed for logging that comprises FHSZ.

Table 15 - Fisheries Data Per Watershed Alternative 3

STREAM NAME	ADF&G AREA	WATERSHED AREA (MI.^{2})	HARVESTED	STREAM LENGTH (MI.)	OF STREAM CUT ON 2 SIDES	OF STREAM CUT ON 1 OR BOTH SIDES	ACRES CUT IN FHMU	% OF HARVEST IN FHMU	ACRES CUT IN FHSZ	% OF HARVEST IN FHSZ
Kadashan	112-42-25	23	6	14	6	2	667	2	15	77
Freshwater	112-50-30	39	2	28	2	0	100	2	12	17
Game Creek	114-31-13	49	8.1	28	7.8	2.2	872	3	86	34
Kennel Creek	112-50-20	13	13	7	20	11	0	0	0	0
Flat Fork	112-12-34	8	8.5	6	5	0	63	1	2	15
Suntaheen	114-27-15	14	8	7	7	0	259	3	53	37
Seal Creek	112-50-38	12	--	8	--	--	--	--	--	--
Gartina	114-31-9	8	15	6	12	2	195	3	26	26
Local Creek	112-11-15	6	7	6	13	0	59	3	3	21
Finger Creek	113-55-1	8	5	4	1	0	21	1	1	8
N. Freshwater	112-50-32	15	6	4	39	4	41	1	2	13
SW. Freshwater	114-27-18	6	14	6	6	0	166	7	34	33
Hillmon	114-32-16	4	14	3	24	0	31	1	3	9
Passage Pt.	112-41-1	3	14	2	4	0	91	4	10	33
5 Mile	112-45-1	5	7	3	0	0	0	0	0	0

Table 14 - Fisheries Data Per Watershed - Alternative 2

STREAM NAME	ADF&G AREA	WATERSHED AREA (MI.)	% HARVESTED	STREAM LENGTH (MI.)	% OF STREAM CUT ON 2 SIDES	% OF STREAM CUT ON 1 OR BOTH SIDES	ACRES CUT IN FHMU	% OF HARVEST IN FHMU	ACRES CUT IN FHSZ	% OF HARVEST IN FHSZ
Kadashan	122-42-25	23	9	14	24	36	1160	87	243	18
Freshwater	112-50-30	39	3	28	0	12	202	31	17	3
Game Creek	114-31-18	49	10	28	22	21	1169	38	324	11
Kennel Creek	112-50-20	13	5/13	7	0/11	0/20	53	12	0	0
Flat Fork	112-12-34	8	14	6	28	34	194	42	77	11
Suntaheen	114-27-	14	13	8	0	31	304	27	111	10
Seal Creek	112-50-38	--	--	--	--	--	--	--	--	--
Gartina	114-31-9	8	20	6	3	14	287	28	14	1
Local Creek	112-11-15	6	10	6	0	20	91	22	13	3
Finger Creek	113-55-1	8	8	4	0	10	79	19	16	4
N. Freshwater	112-50-32	15	4/6	4	0/4	28/43	105	28	0	0
SW. Freshwater	114-27-18	6	12	6	0	5	32	7	6	1
Hillmon	114-32-16	4	12	3	0	20	36	12	6	2
Passage Pt.	112-41-1	3	23	2	35	46	181	46	72	18
5 Mile	112-45-1	5	7	3	0	0	0	0	0	0

Total sediment production may be as high as that from Alternatives 1 or 2 (owing largely to the increased road miles) but the impacts to water quality and fish habitat should be lower because activities are dispersed.

b. Water

This plan provides the best opportunity for stream protection. Greater roading requirements, however, would result in more road related problems. Smaller, more dispersed units, characteristic of this alternative, tend to maintain natural runoff responses.

c. Silviculture

As with Alternative 2, this alternative is not favored as a means of mistletoe control. The probability of volume loss and environmental impact due to blowdown is greatest with this alternative.

d. Wildlife

Alternative 3 was designed to meet best management practices for resource protection and is the preferred form of management for emphasizing the protection and maintenance of wildlife habitat. Maximum constraints on timber harvesting recommended by resource specialists were incorporated in unit and road design. As a result, Alternative 3 has the smallest average unit size (about 35 acres) and the largest number of units of any of the alternatives. The proposed units are irregular in shape, creating the most "edge" due to a high perimeter-to-area ratio. This alternative has the best dispersal of units; that is, the units are spatially spread over a larger area with more "leave" between units. Finally this alternative has the fewest units with high potential of adverse impacts to wildlife habitats such as units occupying both banks of a salmon spawning stream, animal travel corridors, winter range or other high-use areas.

Alternative 3 would require the most management areas to be entered. Additional roads, camps and log transfer sites would be constructed to produce the same volume of timber (see Table 22, page 143).

Dispersing small units over a larger area and allowing for many small entries in the future spreads the timber harvesting out in time and in space. This allows for a better mix of different aged stands (habitats). Such an interspersion of different aged vegetation provides better habitat diversity which is a general measure of the overall quality of the habitat.

e. Fish

Alternative 3 best meets the fisheries resource concerns expressed by public groups and fisheries resource professionals. This alternative incorporates known fish habitat protection measures which minimize the risk of adverse impacts. Fish Habitat Sensitivity Zones are avoided by leaving strips of uncut timber along both sides of mainstem streams where blowdown is not a serious problem. Flood plains or areas containing a high density of rearing streams generally are protected from logging where these areas have been identified on aerial photos or where on-the-ground information is available. All areas of known high sensitivity were avoided. Harvest was proposed in Fish Habitat Management Units where it was determined that management practices are adequate to minimize adverse impacts. Although biologists will review unit layout on the ground, projected impacts to the fishery resource will be minimal if this alternative is imolemented.

f. Visual and Recreation

The proposed harvest and related management activities result in minimal negative impacts on the aesthetic qualities of the management areas included. The positive effect in providing recreation opportunities would be significant. This alternative provides for optimum management of the visual resource and recreation amenities through the adopted Visual Quality Objectives. The visual resource would be managed not only for the areas viewed from established primary travel routes, recreation areas, and use areas, but also for the inland areas associated with recreational amenities made accessible by proposed logging roads.

Short-term negative effects would result from moderate contrasts in color and texture of the landscape following timber harvest. This impact could be significantly reduced in highly sensitive areas as discussed in Alternative 1. Recreationists who seek an undisturbed setting would possible be deterred by logging development and roading. Long-term negative impacts would result from the proposed clearcut units which would not meet inventoried Visual Quality Objectives. However, those impacts must be realized to minimize windthrow hazards and maximize overall resource protection.

Alternative 4

a. Soils

In general, the soils and topography of the East Kuiu Management Area are well suited to timber management activities. Most soils are naturally resistent to surface erosion. Some impacts will occur however, and are described in effects common to all alternatives.

Three degrees of hazard have been noted: moderate, severe and special. The IDT has dealt with these problems by minimizing disturbance to oversteepened slopes; avoiding extremely slideprone areas; recommending the proper shaping of cut and fill slopes; proposing grass seeding and fertilization to quickly revegetate and stabilize disturbed areas; properly locating road crossings in V-notches; and designating full log suspension where warranted. These, along with measures taken to establish windfirm boundaries, will lessen the potential for soil loss and mitigate the adverse effects of sedimentation.

b. Water

The description of general effects of timber harvesting on water resources is appropriate to the East Kuiu Management Area. The water resource inventory for this area consisted of landtype mapping, sediment and streamflow measurement, and determination of channel stability ratings. Most problem stream reaches require on-the-ground site specific solutions. Every designated harvest unit and mile of road were examined in the field by at least two specialists of different disciplines. Potential problem sites determined from aerial photographs or in the field have been reviewed or have been designated for further review during unit layout or road design.

c. Silviculture

Silvicultural effects described for all alternatives summarize the effects of Alternative Four. There are 83 harvest units with an average size of 61 acres. Depending on the outcome of the final cruise and carryover volumes, a lesser number of units may actually need to be harvested in the 1981-86 operating period. Road location and harvest unit layouts were determined so as to minimize resource impacts, including timber values, and to provide adequate mitigation measures where impacts appeared to be unavoidable.

d. Wildlife

Wildlife will be generally affected as described in effects common to all alternatives. Habitat and, therefore, individual species will be affected. Wildlife populations are dynamic and are affected by weather, predation and hunting, as well as by development. Animals which depend on successional stages of vegetation should increase after timber harvest since the growth response of forbs, shrubs and conifers is rapid. Populations will begin to decline as conifers dominate the site and thick stands of young trees block light and access by wildlife.

Species dependent on old-growth will decrease in numbers on areas cut after timber harvest. The decline will be long-term and recovery will depend on the return of the site to a condition replicating a mature timber stand.

The most noticeable effect of the proposed action will be on wintering habitat of Sitka black-tailed deer.

Proposed roads are located near estuaries, lakes, and marshes known to support moulting waterfowl and seasonal migrant species. Areas identified are the inland lake/marsh complexes in the Camden Bay and Three Mile VCUs, the north side and head of Three Mile Arm, south side of Salt Lagoon, and the head of Alvin Bay. The proximity of roads to these areas varies from immediately adjacent, as in the case at the head of Three Mile Arm, to 500 feet or more.

Construction, timber harvesting, and traffic over the road may cause displacement of waterfowl to more remote locations. The significance, duration, or magnitude of displacement is not known. Some observers note that certain wildlife species experience stress under conditions proximate to man's activities. Others note little change in wildlife populations over time where roads are located relatively close to traditional use areas, especially where populations are not subjected to hunting. Frequency and speed of traffic are factors which contribute to disturbance of wildlife.

Hunting pressure on some species would possibly increase because of improved access from the logging camp at Rowan Bay. This would tend to balance by dispersing hunting from other locally used areas over an extended road system. The harvest of bear, wolf, and waterfowl might tend to increase over time with an attendant improvement in hunter success ratios, however, this is not certain since the size of the Rowan Bay community would remain relatively stable.

In Three Mile Arm, No Name Bay, Alvin Bay, and Salt Lagoon, eagle nesting trees will be near logging roads. Topographic constraints require roads to be located nearer some nesting sites than normal. Careful coordination of road design and construction constraints may be necessary to avoid impacting the sites.

Six hundred acres of deer winter range on the north side of No Name Bay would be harvested with proportionate loss of potential carrying capacity in those units harvested. Overall this represents approximately 16 percent of the winter range surrounding No Name Bay. Proposals for timber harvesting on deer winter range in this area in operating periods subsequent to 1986 will need to evaluate the cumulative effects of further reduction on winter range in this particular area.

Wildlife opportunities and problems were described to display discreet differences in the wildlife management situation throughout the East Kuiu Management Area. Recommendations for mitigating effects were carried into the interdisciplinary process. As a result, alternatives emphasized reducing effects on wildlife habitat. Road location and cutting unit placement and design were analyzed in all situations where the retention of wildlife habitat was an important factor. Where neither project design nor management constraints were seen as fully sufficient to avoid or mitigate the loss of highly important habitat, monitoring projects were recommended to determine the value of mitigation procedures and to aid in expanding knowledge on the effects of timber harvest.

e. Fisheries and Estuarine

The environmental risks posed by timber harvest and road construction occur in three general categories; sedimentation/stream channel alteration; floodplain channel destabilization, and temperature sensitivity. These are generally described in effects common to all alternatives.

The greatest potential for impact on fisheries occurs during the developmental stages. While potential impacts to fish habitat will be reviewed at all stages of development, the most important and limiting is the planning stage. The interdisciplinary planning process is the vehicle for the effective protection of the fisheries resource through the planning, implementation and monitoring phases of the development plan. The IDT has 1) identified areas of environmental risk to fish habitat; 2) developed proposals where risk to fisheries has been eliminated or minimized; and 3) applied site specific fisheries protection measures where some risk is unavoidable.

Planning emphasized reducing effects on fisheries and estuarine habitat. Roads, stream crossings, units, landings and potential log transfer sites were located and discussed by the team on-the-ground. Detailed qualitative stream surveys were completed by Forest Service and Alaska Fish and Game biologists; those areas of most importance for the spawning and rearing of anadromous and resident salmonids were located. Also designated were those streams where elimination of natural migration barriers could potentially open significant quantities of stream channel to spawning and rearing anadramous fish. Potential log transfer points were examined and compared by National Marine Fisheries, U.S. Fish and Wildlife Service, and U.S. Forest Service scuba divers.

The continued long-term effects on use of the existing Rowan Bay log transfer site are speculative. Log transfer operations at Rowan Bay have been modified over time to reduce the accumulation of debris. The Forest Service and Alaska Lumber and Pulp Company continue to cooperate with State and Federal agencies to monitor and improve effects on the marine environment.

The National Marine Fisheries Service reports that subsurface water quality that affects the infauna of Rowan Bay is probably heavily impacted at the site. They recommend bark removal of logs before being placed into estuarine waters or containing and removing bark accumulations from the subtidal zone on a periodic basis.

The operator of the Rowan Bay camp removed an unknown quantity of debris beneath the transfer site in 1977. The Corps of Engineers permit for this site stipulates that bottom samples will be taken every other year and furnished, along with an appropriate sketch, to the Corps of Engineers, the Alaska Department of Environmental Conservation, and State Environmental Protection Agency. If significant amounts of debris occur, the State has the authority to require the purchaser to alter its operations or move the log transfer site to another location.

In the 1981-86 period, the company proposes to resort and recut logs for higher quality. An unspecified volume of small logs will be chipped in the sort yard for transportation by barge. Both operations will result in precluding substantial amounts of debris from entering the marine environment, in addition to meeting other requirements of the Corps of Engineers permit.

An additional log transfer site will be developed under Alternative Four in No Name Bay. Impacts resulting from operations associated with log transfer sites have not been conclusively determined through research of past and existing facilities. In most cases, transportation and economic alternatives hinge strongly upon the location and number of log transfer sites. The locations of log transfer sites are of concern to the Alaska Department of Fish and Game, the Alaska Department of Environmental Conservation, the Office of Coastal Management, the Army Corps of Engineers, the National Marine Fisheries Service, and the U.S. Fish and Wildlife Service, as well as to the Forest Service.

The proposed log transfer site in No Name Bay consistently rates as the best location for a second log transfer site through an evaluation of engineering, social, estuarine, and wildlife criteria of ten potential sites examined. Concerns expressed by representatives of ALP and other agencies will be addressed in the determination of the exact location of the site.

f. Visual

The impact of timber harvest will be apparent from saltwater viewpoints with the exception of Port Camden. In all cases, however, units reflect the naturally appearing landscape, will not be viewed from major travel routes, and meet recommended inventoried visual quality objectives. Inland harvest units will be visible from the proposed road system. However, they will be viewed as middleground and foreground by relatively few recreationists and will therefore have low visual sensitivity.

The proposed log transfer facility in No Name Bay is screened by landforms or islands and will not be visible from beyond its immediate vicinity.

g. Recreation

Timber harvest activities will not alter patterns or quality of saltwater recreation experience except possibly in the immediate vicinity of the proposed log transfer site at No Name Bay or where harvest units are visible. These factors may deter the recreationist seeking a pristine and undisturbed setting.

The proposed roads will provide access to a large area and will make it possible for more recreationists to use inland areas. Residents of the Rowan Bay camp will use the road for recreation purposes (assuming the availability of vehicles) accessing inland areas as well as the saltwater bays of East Kuiu as far south as Reid Bay. The proposed log transfer site will provide recreation access to the proposed road system from saltwater.

Alternative 5

a. Soils

Effects on the soils will be the same as in Alternative 4.

b. Water

Effects on water resources will be the same as in Alterrative 4.

c. Silviculture

Effects on timber stands and other vegetation will be the same as in Alternative 4.

d. Wildlife

In addition to the effects on wildlife described in Alternative 4, the proposed Port Camden log transfer site and related activities will disturb seals using traditional haulout rocks 1/2 mile northeast of the site. Further evaluation may disclose an alternate site or site which would be equally favorable for log transfer operations with less potential for disturbance.

e. Fisheries and Estuarine

New log transfer sites are located in No Name Bay and Port Camden. (See discussion in Alternative 4 relating to Rowan Bay and the location of No Name Bay log transfer site.) While road construction and haul costs are favorable over other alternatives considered, the proposed Port Camden site as proposed in the draft environmental statement, consistently ranked lower in all criteria except engineering.

Port Camden is considered a highly productive areas for salmon, herring, crab, and harbor seals and supports one of the most productive bottom fisheries in southeast Alaska; all available evidence indicates that a permanent log transfer site in Port Camden at the location displayed in the draft environmental statement, carries with it an undetermined risk of impairment or damage to one or more of these valuable resources unless unique mitigation measures are determined, developed, and applied.

A re-evaluation of the site, prepared subsequent to the DEIS, indicates the site would be preferable from an engineering viewpoint to alternative sites investigated, in the event barging proves to be an economically favorable alternative to transferring logs directly into saltwater. Alternative sites investigated nearby have been determined to be environmentally more acceptable as conventional log transfer sites. The IDT recommends that the sites warrant detailed planning by a qualified architectural and engineering firm to determine designs which would be environmentally acceptable to the appropriate State and Federal agencies having management responsibilities in marine and estuarine ecosystems. The cost of development to a satisfactory environmental standard, as determined by more detailed study, would be weighed against other alternatives to determine the overall feasibility of locating a log transfer site in tne particular area.

f. Visual

Most visual effects will be the same as in Alternative 4. Visual quality will be an important consideration in any determinations made with respect to the location of a log transfer site in Port Camden.

g. Recreation

Effects on recreation will be the same as in Alternative 4 regardless of the addition of a log transfer site in Port Camden.

Alternative 6

a. Soils

The effects on soils will be similar to those described in Alternatives 4 and 5, except for relatively minor differences in total road mileage. Alternative 6 has approximately 10 miles less road.

b. Water

The effects on water will be similar to those described in Alternatives 4 and 5, except for the differences in total road mileage.

c. Silviculture

The effects on timber stands and other vegetation will be similar to those described in Alternatives 4 and 5, except for the location of roads and harvest units. Average harvest unit sizes are similar in all Stikine Area alternatives. System road lengths are less in this alternative than in Alternatives 4 and 5 (about 10 miles). All road locations and harvest unit layouts were determined so as to minimize resource impacts and provide adequate mitigative measures when impacts are unavoidable. Major differences among the alternatives were simply the choices of planned units and roads to provide up to 130 MMbm from an overall plan for 240 MMbm. Thus, the effects are, by design, similar throughout the alternatives.

d. Wildlife

This alternative would have less immediate effect on waterfowl habitat since the road system is limited to the northern portion of the management area and approaches fewer estuarine areas.

The potential for disturbing (i.e. approaching within 330 feet,) eagle nest trees as a result of road construction, is limited to the head of Three Mile Arm. Care will be taken to avoid locating roads in proximity to nest trees. Careful analysis of road design, coordination with the U.S. Fish and Wildlife Service, and construction timing constraints may be necessary to avoid impacting eagle nesting areas.

Deer winter range on the north side of Three Mile Arm will be reduced by roads and timber harvest by approximately 900 acres. This represents approximately 30 percent of the winter range along the north shore. Units less than 50 acres in size, separated by leave strips, would reduce the impact on deer winter range. Loss of deer wintering habitat and reduction in carrying capacity will be directly proportional to the acreage harvested in winter range. If this alternative is implemented, browse utilization transects will be established in clearcuts and uncut stands to monitor use. Deer populations are currently very low on Kuiu Island, but as they increase, other monitoring techniques such as pellet group counts and mortality transects will be initiated. Information gained through monitoring will be used in formulation of future recommendations.

e. Fisheries and Estuarine

Only the existing Rowan Bay log transfer site would be used. See discussion presented in Alternative 4.

f. Visual

The impact of timber harvest will be apparent from saltwater viewpoints in Port Camden and Three Mile Arm, but as in Alternatives 4 and 5, cutting units will resemble the naturally appearing landscapes, will not be viewed from major travel routes, and will meet inventoried visual quality objectives. The impact of inland units will increase over Alternatives 4 and 5 due to an increase in number and density of units; the visual sensitivity will remain low, however, due to infrequent visits by few recreationists.

g. Recreation

Alternative 6 provides recreation opportunities similar to Alternatives 4 and 5 but does not provide access to as much area. The main trunk road will only extend as far south as Salt Lagoon and will not provide access to No Name, Alvin, or Reid Bays. The intensity of timber harvest in the northern portion of the management area will increase which may decrease the opportunity for recreational experiences which require a less disturbed setting.

Alternative 7

a. Soils

Effects on soils will be the same as described in Alternative 6.

b. Water

Effects on water resources will be the same as described in Alternative 6.

c. Silviculture

Effects on timber stands and other vegetation will be the same as described in Alternative 6.

d. Wildlife

Effects on wildlife are the same as described in Alternative 6 and those attendant to the log transfer site in Port Camden described in Alternative 5.

e. Fisheries and Estuarine

The effects and management concerns are the same as described in Alternative 5 regarding the Port Camden log transfer site.

f. Visual

Visual effects will be the same as in Alternative 6.

g. Recreation

Effects on recreation will be the same as in Alternative 6.

Alternative 8
Alaska Lumber and Pulp Company for Chatham and Stikine

a. Soils

This alternative produces relatively low risks of soil mass failure or resulting impacts to fish streams. Road construction miles and resulting sediment, are generally as low (if not lower) than the other alternatives. Harvest units are more concentrated by drainage.

b. Water

Concentrated harvesting or harvesting large portions of the watershed area may result in quicker hydrologic responses and consequently a slightly higher water yield than from timbered areas. Higher water yields or increased flow combined with larger disturbed areas may result in increased sediment production.

c. Silviculture

Implementation of this alternative would provide adequate mistletoe control with low timber blowdown probabilities. Yarding costs would generally be lower than for the other alternatives since less skyline yarding is required. Timber haul costs would be minimal.

The most significant difference between this alternative and those prepared by the IDTs is that implementation would leave some presently operable volume unavailable (with proposed harvest systems). The plan also does not enter some areas now which may be less economic if deferred to later entries.

d. Wildlife

For an evaluation of Alternative 8, proposed units in four drainage areas (Suntaheen, Salt Lake Bay, Trap Bay and Gartina) were analyzed for effects on wildlife habitat. A comparison with units under the other three Chatham Area alternatives for the same areas was made to better judge the relative impacts. Alternative 8 had the fewest units of any of the alternatives and the second largest average unit size for the four drainage areas. It also had the most units (18 for Alternative 8, 10 for Alternative 1) considered to have high potential of adverse impacts on wildlife. Units rated as high risks were: those in low elevation deer winter range; units taking timber from both sides of a major stream; units that blocked wildlife corridors; and units near or adjacent to estuarine areas.

Although quantitative measurements were not made on leave strip effectiveness, a qualitative evaluation shows that Alternative 8 probably has a greater average distance between units than Alternative 1. If true, this alternative would allow for a better intermixture of old growth and cut over areas, thus providing better habitat diversity than more concentrated cutting patterns.

The overall impacts of this proposal are anticipated to be the most severe of the alternatives affecting the Chatham Area. Although Alternative 8 may pose less risks to the upper valley areas, this gain is offset by the adverse impacts of harvesting timber in the more sensitive wildlife habitats.

e. Fish

Table 16 shows the effects by watershed for Alternative 8 and compares this alternative with the others. These tables shows that Fish Habitat Sensitivity Zones were avoided to about the same extent as Alternative 2. The percent of stream cut to both sides is similar to Alternative 3. Streams logged to either or both sides and Fish Habitat Management Unit cut within the logging area is much higher than Alternative 1. Projected impacts if this alternative were implemented are probably somewhat greater than Alternative 2. The biologist's input would be necessary in all phases of the logging plan.

f. Visual and Recreation

The proposed harvest and related management activities would have a high risk of adverse impacts on the aesthetic quality of the management areas included. This would result from a lack of visual resource management by overlooking viewer sensitivity associated with established recreational use patterns and the aesthetic qualities of the natural landscape.

There are both short-term and long-term potential negative effects associated with this alternative. The risk of short-term negative effects would result from the intense visual contrasts in color and texture in the landscape following timber harvest. However, this impact could be significantly reduced in highly sensitive areas as discussed in Alternative 1. The risk of long-term negative effects would result from the loss of inherent aesthetic qualities of the landscape associated with the intensity, size, and shape of proposed clearcut harvest units. Approximately two thirds of the proposed clearcuts would be classified at least as maximum modification of the landscape.

The positive effects associated with this alternative would be derived from the proposed logging roads throughout the operating areas. These roads would provide access to interior land areas, thus expanding opportunities for dispersed recreation.

Alternative 9
(Preferred Alternative)

A detailed analysis of the effects of this Alternative is provided.

Evaluation of Alternatives

The evaluation process is designed to ensure that the recommended operating plan for 1981-86 is consistent with the goal of providing current and future generations with a sustained supply of wood fiber which is harvested in a manner that complies with USDA Forest Service multiple use management policies. The evaluation process examines long term, as well as short term, effects of each alternative. It presents the process and the rationale by which the preferred alternative was developed.

Alternative harvest plans for ALP 1981-86 were formulated, insofar as possible, within the constraints of the evaluation criteria. The relationship of the developed alternatives to these criteria is as follows:

1. The preferred alternative must be within direction set in the Tongass Land Management Plan and must be within existing laws and regulations.

Laws, regulations, and policies relating to forest practices, as well as the Tongass Land Management Plan, specify management direction. (See Appendix for illustration of this TLMP direction.) Application of such direction, as in a timber harvest plan, requires interpretation by agency personnel having various resource management qualifications (see Appendix for identification of IDT members).

Management alternatives presented in this environmental statement represent various levels of assurance in meeting the laws, regulations, and policies.

The data presented in this EIS is based substantially on photographic interpretation except in the East Kuiu management area; hence, this data does constitute the level of information needed to say with certainty that all laws, regulations, and policies will be met. When implemented, considerable flexibility exists to make the changes necessary to assure that the plan is in conformance with these laws, regulations, and policies.

KEY FOR TABLE

FISHERIES DATA PER WATERSHED

Column	Data Provided
1	The watershed areas were determined with a polar planimeter on 1:63,360 maps.
2	Percent of watershed proposed for logging is area in a watershed to be logged divided by the total area of that watershed.
3	Total stream length comprises known and suspected fish habitat above and below barriers to fish passage. Stream lengths were measured on 1:63,360 maps.
4	Percent of total stream length with proposed logging along either one or two sides of the stream.
5	Percent of total stream length oroposed to be cut on both sides.
6	Total acreage of Fish Habitat Management Units (FHMU), estimated from inspection of each proposed cutting unit on aerial photographs. In the context of this study, a FHMU is an area, within a proposed cutting unit, that contains salmonid (resident and anadromous) fish habitat and uplands in which development will likely affect fish habitat.
7	Percent of the total area proposed for logging that comprises FHMU.
8	Total acreage of Fish Habitat Sensitivity Zones (FHSZ) estimated from inspection of each proposed cutting unit on aerial photographs. In the context of this study, a FHSZ is an area, within a proposed cutting unit or at a bridge site, that contains salmonid (resident and anadromous) habitat that is important or critical for fish production and/or sensitive to development activities.
9	Percent of the total area proposed for logging that comprises FHSZ.

TABLE 16 -- FISHERIES DATA PER WATERSHED, ALTERNATIVE 8

	WATERSHED AREA (Mi^2)	% HARVESTED	STREAM LENGTH (Mi)	% OF STREAM CUT ON @ SIDES	% OF STREAM CUT ON 1 OR BOTH SIDES	ACRES CUT IN FHMU	% OF HARVEST IN FHMU	ACRES CUT IN FHSZ	% OF HARVEST IN FHSZ
Kadashan	23	18	14	0	70	2121	80	255	10
Freshwater	39	6	28	1	12	970	71	120	9
Kennel Cr.	13	6	7	0/11	11	50	10	0	0
Flat Fork	8	12	6	17	50	465	76	101	16
Suntaheen	14	11	7	0	37	495	50	93	10
Gartina	8	18	6	0	46	659	70	52	6
N. Freshwater	15	3	4	0/4	46/62	212	86	16	6
SW Freshwater	6	15	6	0	29	388	71	52	10
Hillmon	4	10	3	18	51	239	100	58	24
Passage Pt.	3	18	2	24	52	181	59	34	11
5-Mile	5	--	3	--	--	--	--	--	--

Alternatives 3 (Chatham Area) and 4 (Stikine Area) represent the form of management with the greatest degree of assurance for meeting this criteria. Alternative 1 includes management actions most likely to require on the ground modifications to meet fully existing laws, regulations, and policies (as well as the greatest management expense to assure they are met).

2. The preferred alternative should provide an opportunity to meet contractual obligations.

Any combination of Chatham and Stikine management alternatives meets this requirement. The Preferred Alternative also meets this requirement.

3. The Forest Service should have the people and dollars to implement the plan.

The requirement can be met for all alternatives at present personnel and funding levels.

4. The economic costs should not exceed economic benefits.

In order to provide the timber volume required under the contract while meeting environmental regulations and policies, additional investment is required for Alternative 3 and for the Preferred Alternative.

Displayed below is the investment required for each alternative to break even and pay the base rates to the United States. These data are based on average selling and operating costs in southeast Alaska over the past ten years They may not reflect actual values, resulting from selling and operating costs.

Table 17
Estimated Additional Investment Costs for Each Alternative*

Chatham Alternative 1 -	$0
Chatham Alternative 2 -	$0
Chatham Alternative 3 -	$6.1 million
Stikine Alternative 4 -	$0
Stikine Alternative 5 -	$0
Stikine Alternative 6 -	$0
Stikine Alternative 7 -	$0
ALP Alternative 8 -	$0
Preferred Alternative -	$5.6 million

In addition to providing required timber volumes, the investments will purchase roads to be used for timber removal and all other management purposes. These road systems will also be used at a later period or periods to access and remove the remaining volumes.

While some alternatives appear more cost effective based on an initial investment need, some of those with higher initial investments may have greater long term returns. Thus, a higher initial investment may be advantageous as a long term economic investment as well as providing better resource management and protection.

5. The environmental and socioeconomic costs should not exceed total benefits.

These conditions exist when all benefits, including amenity as well as monetary values, equal or exceed the costs. The interdisciplinary team believes that compromise alternatives which balance potential costs, both amenity and monetary, offer the best decision.

Environmental costs could occur to fisheries if timber harvest triggers mass soil movement, resulting in sedimentation of stream habitat; to wildlife if old growth timber is cut in critical winter range for deer; to visual resources if cutting units along heavily traveled water routes are designed for maximum modification. These costs were discussed in "Effects of Implementation."

Economic costs result if harvest is deferred from areas of high volume timber to protect wildlife,fisheries,or visual resources. Long term costs result, too, if LUD IV intensive management is not pursued. Some proposed roading has been planned to avoid adverse environmental impacts or to better meet socioeconomic objectives; this results in somewhat higher construction costs.

Benefits accrue primarily through generation of direct employment in southeast Alaska and secondary economics generated by supporting industries. However, roads to enhance dispersed land-based recreation and serve communities; provision for fisheries enhancement projects; and opportunities to manage wildlife habitat are also direct benefits of these proposed operating plans.

Benefits also result from replacing overmature timber stands with younger, faster growing stands. This will result in growing more timber on the same land base, providing better opportunity for multiple use management in the future.

Even though the potential for adverse environmental impacts has not been entirely eliminated in the proposed management actions, neither have timber harvest economics been fully maximized. The alternative actions arrayed in this environmental impact statement each attempt to balance costs with benefits, but with varying emphasis on either amenity resources or timber production. For example, Alternative 3 (Chatham Area) tends to place more emphasis on amenity resources than Alternative 1. Commodity resource benefits, however, are more nearly maximized in Alternative 1 than in Alternative 3. The remaining Chatham and Stikine alternatives more closely balance commodity with amenity values through the process of IDT development of roads and harvest areas.

6. The preferred alternative should reflect expectation expressed in the public involvement process.

Public involvement activities associated with this planning process have been extensive for over two years. Input from communities, other State and Federal agencies, Native groups, special interest groups, and individuals has been an important element in each planning phase. The participation of public groups and individuals is discussed in more detail in Section IV: Consultation With Others. Issues and concerns are discussed in Section II and in Section IV.

*Estimates based on past 10-year averages.

Not all public expectations can be met in public land management. However, because of the extensive public involvement undertaken by the IDT, the alternatives presented in this environmental statement reflect considerable responsiveness to public expectations. The potential of this operating plan to serve community needs is a particular strength of the plan and the process used to develop it. Those who do not desire or will not benefit directly from development activities may be less satisfied with some of the alternatives. However, considerable effort was made to incorporate resource protection measures and to minimize impacts of development in sensitive areas. Adjustments made to the Recommended Action, as presented in the DEIS, were particularly responsive to the public comments and the Preferred Alternative is expected to resolve most, if not all, of the major issues and concerns expressed.

Based on these criteria, IDT evaluation of each alternative is:

Alternative 1 - (Chatham) Could provide the necessary volume funding but has high environmental trade offs.

Alternative 2 - (Chatham) Could provide the necessary volume. This alternative has fewer significant environmental trade offs, but some timber loss and related adverse environmental impacts through blowdown are likely.

Alternative 3 - (Chatham) Could provide the necessary volume with possible additional funding. There were few environmental trade offs but, again, has risk of blowdown.

Alternative 4 - (Stikine) Could provide up to 130 MMbm with road and facility costs similar to Alternatives 5, 6, and 7.

All costs are high due to the additional distance to Rowan Bay offsetting the advantage of only one new log transfer site. Environmental impact issues are satisfactorily resolved. This alternative lacks the transportation flexibility and resource management capability of Alternative 5. It is preferred however, because of considerations identified in the effects analysis for fisheries and estuarine values as they pertained to Alternative 5 in the DEIS, and because of State of Alaska and other Federal agency concerns expressed prior and subsequent to the DEIS.

Alternative 5 - (Stikine) Could provide up to 130 MMbm with road and facility costs similar to Alternatives 4, 6, and 7.

All costs are lower due to shorter haul distances which are, however, partially offset by the cost of an additional log transfer site. Environmental impact issues are satisfactorily resolved. This alternative was not selected even though it offered greater transportation flexibility and resource management capabilities.

Alternative 6 - (Stikine) Could provide up to 130 MMbm with road and facility costs similar to Alternatives 4, 5, and 7.

Haul costs are high due to additional distance to Rowan Bay offsetting the advantage of no new log transfer site. Environmental impact issues are satisfactorily resolved. This alternative was not selected because it did not extend the main trunk road south as far as possible and therefore, did not provide the level of transportation flexibility and resource management capability of Alternatives 4 and 5.

Alternative 7 - (Stikine) Could provide up to 130 MMbm with road and facility costs similar to Alternatives 4, 5, and 6.

All costs are lower than Alternative 6 due to location of the log transfer site in Port Camden. Environmental impact issues are satisfactorily resolved. This alternative was not selected because it did not extend the main trunk road south as far as possible and therefore did not provide the level of transportation flexibility and resource maanagement capability of Alternatives 4 and 5.

Alternative 8 - (ALP) Could provide the necessary volume. While there are some environmental strengths to this alternative, there were also significant resource concerns. Because harvest units are more concentrated by drainage, there is increased potential for sediment production in streams. There is also a high percentage of cutting units proposed in sensitive wildlife habitat areas, eg. within low elevation deer winter range and near estuaries. This alternative also makes some economically available timber uneconomical for additional entries.

Alternative 9 - (Preferred Alternative) This alternative, representing a blend of elements in other alternatives, was adjusted in the interdisciplinary process to best address environmental, economic and management considerations. Detailed analysis is provided on following pages.

PREFERRED ALTERNATIVE

Development

IDT analysis reached the conclusion that none of the eight alternatives singly represented the best alternative, but that components found in all alternatives should be considered on an area-by-area basis. The process of combining alternatives to develop the IDT Recommended Action was important on the Chatham management areas where alternatives 1, 2, and 8 were modified to eliminate major environmental problems while providing an economically achievable plan. Resources were considered on individual areas and the appropriate alternative selected to best meet management concerns within economic constraints. On the East Kuiu Management Area, this blending of environmental and economic capabilities had been adequately achieved by Alternatives 4 and 5.

The Recommended Action in the draft environmental statement proposed harvest of 525 MMbm of timber from eight management areas: Whitestone Harbor, Freshwater Bay, Crab Bay, Corner Bay, Tenakee Inlet, Kelp Bay, Kadashan, and East Kuiu. A total construction of 369 miles of road was believed necessary to access this volume.

During the initial stages of planning for the 1981-86 operating period, several factors combined to make it difficult to estimate either the amount of volume needed to meet contractual requirements or the area needed to provide this volume.

Since the draft EIS was filed, the volume within the units included in the DEIS Recommended Action has been estimated using statistical sampling techniques. This statistical sample indicates that the amount of board foot volume per acre was underestimated during the initial planning stages. The sample indicates, therefore, that less area will be needed to meet the contractual volume requirements for this 5-year period. For this reason, some of the areas recommended for harvest to meet the contractual requirement may be deferred during 1981-86 on a sequential basis.

Because the final estimate of volume will not be determined until the end of the 1980 season, a precise statement of which areas will be deferred cannot be displayed in the FEIS. However, the objective of establishing a sequence for harvest deferral is to display the likely outcome as volume estimates are refined. By this method, the public can be advised which areas will be added to the Preferred Alternative and the order in which they will be added, if volume is required.

Areas and units are deferred in the FEIS based on the following criteria:

1) Meet resource management objectives as described in TLMP.

2) Recognize public concerns expressed in DEIS comments.

3) Allow for the operation problems and implementation.

All harvest units identified in the DEIS study were listed serially for the Chatham and Stikine administrative areas to meet the above criteria.

The deferrals are based on average volumes per acre of the entire timber cruise. The cruise data is now being recomputed, using the revised units and areas. The system allows the Forest Service flexibility to include the amount of timber needed to achieve the contract commitment and, at the same time, illustrates the manner by which this will be done.

Tables 18 and 25 and the maps in part II indicate the results of this deferral system.

Proposed harvest units that are not required to meet volume commitments for the 81-86 operating period will not be included in the rate redetermination appraisal and will be deferred to the future at which time they will be subject to the interdisciplinary planning process once again.

Additional portions of the trunk road system beyond that which is required to access units included in the 81-86 operating period may be considered for construction during the 81-86 operating period and may be used to remove timber harvested during the 1986-91 operating period.

Prioritization of the proposed harvest units of the East Kuiu Management Area is based on providing a total of 200 MMbm (new plus carryover volume). Prioritization is serial with the lower numbered units being the first to be considered for harvest based upon the dual objectives of maintaining a viable skyline program while developing the main trunk road as far south into the management area as possible. After these objectives have been met, units that will accomplish the same objectives while providing for extension of the main trunk road north into the Port Camden area will be considered. The last units to be considered will be those identified during the planning/public involvement process as having a higher likelihood of resource impact.

The Preferred Alternative map for the East Kuiu Management Area (Part II) displays the priority number of each proposed unit. It is estimated that the new volume required to meet contractual volume commitments for the '81-86 operating period can be obtained from units 1 through 43. Only these units will be considered in the rate redetermination appraisal unless it is determined that additional units must be included to meet volume commitments. If this should be the case, additional units will be considered serially (44, 45, 46, etc.).

We expect that the necessary timber to fulfill contract obligations will be provided through East Kuiu units 1 through 43 for 88.0 MMbm and Chatham Units 1 through 292 for 364 MMbm. As more volume is needed, single units will be added in ascending numerical order.

In addition to areas displayed in Table 18, portions of some units were identified for management emphasis on fish, wildlife, or visual resources. (See Table 19.) These areas will receive field review. If suspected sensitivities are not present, they will be added to the existing unit and entered serially.

TABLE 18

SERIAL SEQUENCE OF TIMBER HARVEST BY AREA

Area	Serial Unit	Area Volume MMbm	Average Unit Size Acres	Road Const. Miles	Cumulative Volume MMbm
		--Chatham Area--			
		Anticipated Harvest 1981-86			
Suntaheen	1-34	48.9	50.2	33.0	48.9
Gartina	35-61	40.1	51.8	24.0	89.0
Lower Game	62-95	34.8	36.8	21.9	123.8
Upper Game	96-112	27.6	60.8	12.7	151.4
15-Mile	113-118	11.8	57.0	4.2	163.2
Salt Lk. Bay	119-136	23.8	41.6	14.7	187.0
Freshwater	137-160	34.2	49.8	19.7	221.2
Kennel Cr.	161-168	15.2	66.2	6.2	236.4
Hanging Valley	169-173	8.3	57.8	2.8	244.7
East Point	174-183	7.1	25.0	4.9	251.8
Seal Creek	184-190	21.0	104.9	7.2	272.8
Trap Bay	191-239	38.3	27.3	20.3	311.1
Finger Crk.	240-246	12.8	64.0	5.9	323.9
Portage Arm	247-255	8.0	31.0	5.6	331.9
Catherine Is.	256-292	32.1	30.3	22.6	364.0
		--Areas to be Entered Serially If Needed for Volume--			
Upper Game	293-312	27.5	56.3	20.0	391.5
Iyouktug	313-335	33.7	51.8	13.4	425.2
Pavlof	336-343	14.5	64.1	7.6	439.7
Portage Arm	344-345	1.4	25.0	0.6	441.1
Catherine Is.	346-352	3.8	19.4	0.3	444.9
East Pt.	353-354	2.3	4.1	0.3	447.2
Freshwater	355-358	5.3	47.0	0.4	452.5
Kennel Cr.	359	0.6	22.0	0.3	453.1
Iyouktug	360	0.4	13.0	0.2	453.5
Upper Game	361-365	5.0	35.2	0.0	458.5
Lower Game	366-368	2.5	29.3	0.4	461.0
Suntaheen	369-376	9.7	42.8	0.5	470.7
Finger Cr.	377-380	4.0	35.2	0.7	474.7
Iyouktug	381	0.3	11.0	0.0	475.0
Upper Game	382-384	1.4	17.0	0.0	476.4
Lower Game	385	0.2	8.0	0.0	476.6
		--Areas to be Entered Serially If Needed for Volume--			
East Kuiu	1-43	88.0	61.4	56.8	88.0
		--Stikine Area--			
		Anticipated Harvest 1981-86			
East Kuiu	44-83	77.0	57.8	47.1	165.0

TABLE 19 PARTIAL UNIT DEFERRALS WHICH MAY BE ADDED, PENDING ON-THE-GROUND REVIEW. 1/

UNIT#	LOCATION	IDENTIFIED RESOURCE CONCERN
3	Suntaheen	Visual and wildlife habitat, South of road, 40 ac.
5	Suntaheen	Visual and wildlife corridor through center of unit, 39 ac.
14	Suntaheen	Visual and wildlife habitat east of road, 15 ac.
15	Suntaheen	Visual and wildlife habitat northeast tip of unit and east of road, 40 ac.
16	Suntaheen	Visual and wildlife habitat west of road, 45 ac.
23	Suntaheen	Fish habitat southwest and southeast tips of unit, 4 ac.
70	Lower Game	Fish habitat east unit edge along stream, 4 ac.
78	Lower Game	Fish habitat south tip in riparian zone, 3 ac.
80	Lower Game	Fish habitat south tip to windfirm boundary, 2 ac.
85	Lower Game	Fish habitat portion below west road, 4 ac.
87	Lower Game	Visual and wildlife habitat west 1/4 mile of unit, 16 ac.
158	Freshwater	Visual and Wildlife habitat east finger of unit, 14 ac.
160	Freshwater	Visual and wildlife corridor center of unit, 33 ac.
189	Seal Creek	Fish habitat portion between road and stream, 5 ac.
243	Finger Creek	Fish habitat portion below road, 27 ac.
244	Finger Creek	Fish habitat portion below road, 12 ac.
314	Iyouktug	Visual and wildlife corridor, mid 1/4 of unit, 23 ac.
317	Iyouktug	Fish habitat north portion of unit for windfirm boundary, 4 ac.
318	Iyouktug	Fish habitat southwest edge to windfirm boundary, 1 ac.
320	Iyouktug	Fish habitat north edge along stream to windfirm boundary, 6 ac.
322	Iyouktug	Fish habitat southwest side to windfirm boundary, 25 ac.

1/ These areas will not be harvested unless authorized by the Forest Supervisor following an on-the-ground review and signed prescription in the "Field Management Forms", by a landscape architect, wildlife biologist or fish biologist.

TABLE 19 (continued)

UNIT#	LOCATION	IDENTIFIED RESOURCE CONCERN
326	Iyouktug	Fish habitat south portion below spur road, 22 ac.
328	Iyouktug	Fish habitat and visual and wildlife habitat west 1/4 of unit, west spur road and spur on east side of unit, 18 ac. and northwest 1/2 of unit, 54 ac.
329	Iyouktug	Fish habitat 1/2 of unit below road, 7 ac.
330	Iyouktug	Fish habitat portion north of road, 3 ac.
		TOTAL: 478 Acres

TABLE 20

Commercial Forest Land in Preferred Alternative

Component	Acres	Percent
Unregulated	1,200	4
Marginal	10,185	36
Standard and Special	16,915	60

Harvest of Marginal Timber

The Preferred Alternative includes marginal timber. Marginal timber, along with restrictions, in LUD III areas require public investments to make them economical. The Preferred Alternative may need additional funding for the five-year period to make it economical to harvest the recommended areas. TLMP provides for $11.7 MM per year of investment for the Tongass National Forest.

Economic Analysis

The Forest Service hired a consultant to assist with the Economic Analysis. The following are his findings:

Selection of the "NO Action" Alternative would be of significance to those people, and their families, who gain their livelihood in the logging and wood processing industries. The data below display average employment in the logging, lumber and pulp industries in southeast Alaska for the period 1970 through 1976.

NUMBERS

AVERAGE ANNUAL

Logging	1170
Lumber	565
Pulp	1095

These numbers reflect the direct employment attributable to the sale of timber from the Tongass National Forest. Other direct employment not included above includes bargemen, longshoreman, bookkeepers, mechanics, road builders, etc.

Additionally, whatever employment is induced by the expenditure of wages and salaries directly attributable to timber sales in southeast Alaska is legitimately an outgrowth of the decision to sell timber.

Assuming that 105 MMBF is cut and sold from the ALP sale during each of the next five years, logging and wood processing employment generated directly from that sale is estimated to be approximately 575.

Based on a preliminary appraisal, each of the harvest alternatives as projected result in the production and sale of final products, cants, pulp and round logs, valued at $316 million during the 5-year rate redetermination period. Yearly, $63 million worth of wood products will be produced and sold in southeast Alaska from timber harvested from the ALP timber sale.

Based on preliminary appraisals, the data below lists the net stumpage expected to be earned from the sale of each thousand board feet of timber. A net stumpage rate of $1.58/MBF is an indication that the indicated net stumpage was negative and base rates will be imposed, the average of which is $1.58/MBF.

Alternative	Net Stumpage Rate Per MBF
1	$30.44
2	28.13
3	1.58
4	23.78
5	23.27
6	32.47
7	36.73
8	16.87
PA	1.58

Net stumpage is simply whatever is left over after deducting the cost of logging and processing, including a margin for profit, from selling prices. Contributing to cost are a multitude of factors, the most important of which will be examined here. First, primary processing provisions included in the ALP timber sale contact stipulate that wood will be partially processed in southeast Alaska. These provisions are designed to create and maintain a stable employment base in southeast Alaska. Since processing is more costly in southeast Alaska than elsewhere, local processing ensures net stumpage rates which are lower than if processing takes place elsewhere. Ron Glass, "Investment Analysis of Precommercial Thinning in Southeast Alaska," March 1979, Region 10, has estimated, using BIA data and data from the Tongass National Forest index sale, that relaxation of primary processing provisions would increase stumpage by 116%. So, by reducing stumpage revenue by one half, the United States Forest Service created an average of 1,560 wood processing jobs in southeast Alaska. This employment constitutes an important component of the income earned by people living in communities such as Wrangell, Sitka, and Ketchikan.

Secondly, adjusting harvest procedures to preserve and protect recreation resources, fish, wildlife, historical, and cultural resources, visual resources, etc., dictate small and dispersed harvest areas and many additional miles of roads. Adjustments of this sort substantially increase costs. The benefits generated by this adjustment cannot be estimated here. The Preferred Alternative is sacrificing net stumpage revenue in order to preserve environmental quality.

Another beneficiary of the ALP timber sale is the State of Alaska and its municipalities. The State receives 25 of stumpage (including the value of specified roads) in lieu of taxes from this sale. Based on a preliminary appraisal, the State is expected to receive about $9 million from the sale of this timber this five-year period.

Cutting Unit Size

The Preferred Alternative meets all of the new regulations of the National Forest Management Act (see Federal Register, May 4, 1979) concerning cutting unit size. Three recommended units exceed 100 acres. These three units had to exceed 100 acres in order to reach windfirm boundaries. The special circumstances encountered in each of the three units designs are discussed in the following sections on the Whitestone Harbor and Freshwater Bay Management Areas.

Consistency with Coastal Zone Management Program

In developing the operating plan for the 1981-86 ALP activities, the Interdisciplinary Team has consulted with the State of Alaska to assure that the plan meets the provisions of Sections 307(c)(1) and (c)(2) of the Coastal Zone Management Act, which directs that:

> Each Federal agency conducting or supporting activities directly affecting the coastal zone shall conduct or support those activities in a manner which is, to the maximum extent practicable, consistent with approved State management programs.
>
> Any Federal agency which shall undertake any development project in the coastal zone of a State shall ensure that the project is, to the maximum extent practicable, consistent with approved State management programs.

The Preferred Alternative as presented in this final environmental impact statement is consistent with the State of Alaska Coastal Management Program Standards and Guidelines. These Standards and Guidelines are set forth in the final environmental impact statement published by the State of Alaska Office of Coastal Mangement and U.S. Department of Commerce Office of Coastal Zone Management, May 30, 1979. There are no applicable district coastal management programs now in effect. (See also State of Alaska comments on the ALP draft environmental statement and Forest Service responses, Section IV.)

Transportation

Existing road systems permit better use of developed facilities, reduced operating costs, decreased impacts to other resources, greater safety for personnel associated with National Forest management, and increased opoortunity to meet a number of Forest management objectives. An additional important feature of the extended road is the opportunity to meet socioeconomic concerns of communities, a particularly important consideration on northeast Chichagof. Developed road systems on Kuiu Island, can be extended north and south from the Bay of Pillars isthmus road, and on Chichagof the proposed road system would connect Freshwater Bay, Game Creek, and portions of the Whitestone Harbor Management Area with one another and with Hoonah. Forest Management activities projected by TLMP and facilitated by the proposed transportation systems on Chichagof and Kuiu Islands are listed in Table 21.

This EIS also provides for advance roading into areas identified for deferred entry and into Kadashan.

Advance roading is the construction of roads during this 5-year period that will not be used until the subsequent 5-year periods. Advance roading is necessary for several reasons:

1) to assure an even flow of timber harvest during subsequent 5-year periods. Without advance roading, all operations would cease at the end of each 5-year period and the first year of the next 5-year period would be spent building roads. This would be extremely inefficient.

2) To allow sufficient time to get the roads built before they are needed. This is especially important where the roads are being built with appropriated funds. In this case, it takes about four to five years from the time the road is conceived until it is built. The time involved includes the location of the road, survey and design, construction staking, letting the contract, and construction of the road.

TABLE 21 Proposed Management Activities Accessed by Logging Road Systems 1/

NORTHEAST CHICHAGOF

Whitestone Management Area

PROJECT	LOCATION
Alpine Shelter Construction	Suntaheen
Alpine Shelter Construction	Iyouktug
Alpine Trail	Suntaheen
Alpine Trail	Iyouktuq
Alpine Trail	Gypsum
Fishway (Habitat Improvement)	Gartina
Fishway (Habitat Improvement)	Suntaheen

Freshwater Bay Management Area

PROJECT	LOCATION
Recreation Cabin	Pavlof
Alpine Trail	Game Creek
Alpine Trail	Freshwater Bay
Alpine Trail	Pavlof
Waterfowl Nest Platforms	Upper Freshwater
Waterfowl Nest Platforms	Pavlof
Fish Habitat Improvement	Seagull Creek
Timber Stand Improvement	Kennel Creek

1/ See TLMP, Part II, for Management Area directional statements. Statements for Kadashan and the East Kuiu Management Areas are included in the Appendix of this FEIS, illustrating LUD III and LUD IV direction.

TABLE 21 (continued)

KUIU ISLAND

East Kuiu Management Area

PROJECT	LOCATION
Recreation or VIS Construction	Located per demand
Trail Construction	Located per demand
Deer Range Improvement	VCUs 416-420
Fish Habitat Improvement	Alvin Bay/Reid Bay
Fish Habitat Improvement	No Name Bay
Fish Habitat Improvement	Seclusion Harbor
Fish Habitat Improvement	Port Camden
Timber Stand Improvement	VCUs 416-420
Water Resource Improvement	VCUs 416-420

Advance road construction in the form of pre-roading will be allowed to accommodate harvesting in the following areas: Hoonan, Freshwaster Bay (may include Pavlof Ridge), Kadashan and Camden Peninsula.

Every effort will be made to construct or reconstruct bridges of permanent materials on permanent road systems. Maintenance costs of roads and bridges are discussed in detail in the Transportation Specialists report (available upon request). Management decisions to assign maintenance levels are guided by enhancement projects such as fish habitat and wildlife improvements, silviculture activities, recreation opportunity, and continuing timber harvesting.

16 USC 532-538 authorizes construction of maximum economy roads and methods for financing. A partial base of operations and use ot the ferry terminal in Hoonah meet the prudent operator concept for construction of the tie road to Hoonah. This road also accesses road construction material. Should key factors change--the operator select another base of operations, the ferry system be unavailable at Hoonah, or road construction material be unavailable--alternative facilities would be assessed.

The need to locate alternative facilities could also occur if right-of-way permits could not be obtained on certain private lands.

Proposed log transfer and log storage sites during the 1981-86 operating period were reviewed in July, 1979, by an IDT which included personnel of the Forest Service, the U.S. Fish and Wildlife Service, and National Marine Fisheries Service. The review was made to determine if these sites comply with the policies outlined in the Southeast Alaska Area Guide. Recommended actions, with regard to this review, are discussed in the USFWS annual report, Southeast Alaska Pre-Project Investigations, 1978, (Juneau). The most significant action identified was the need to explore alternatives to inter-tidal log storage (i.e. Fish Bay). An IDT will be formed to make this investigation in 1980 and less impacting log storage alternatives, if any, determined.

Potential alternate transfer sites have been identified on Northeast Chichagof in Whitestone Harbor and near Burnt Point, about one mile north of Seagull Creek. Whitestone Harbor has received thorough review by the Forest Service and numerous other Federal and State agencies. The decision to develop a transfer site at Burnt Point would require further investigations by the Forest Service and other agencies and public review. This assessment and review could occur in the form of a supplement to this environmental statement or an environmental assessment report.

Description of Preferred Alternatives

Selection of alternatives for individual areas is described as follows:

WHITESTONE HARBOR MANAGEMENT AREA

A total of 94 units (132.0 MMbm) and 71.1 miles of road are planned in Gartina, Suntaheen and Iyouktug drainages. It is anticipated though that only 61 units (87.9 MMbm) and 57.0 miles of road will be needed during the 81-86 period. However, pre-roading into Iyouktug may occur.

For improved visual and wildlife habitat management, Alternative 2 was selected in the following areas:

* Foreground viewable portion of Suntaheen, including approximately one-fourth of the VCU

* The west fork of Suntaheen River for wildlife habitat management

The remaining portions of this management area incorporated elements of Alternatives 1 and 8 but with major environmental problem areas deleted.

The log transfer site at Hoonah will also be used for volume harvested from Game Creek in the Freshwater Bay Management Area.

The preferred alternative for the Whitestone Harbor Management Area includes one log transfer site at Hoonah to serve the entire area. This log transfer site was selected over possible sites at Whitestone Harbor and a barge transfer site on Iyoukeen Peninsula. The decision was based on the following factors: (1) impact to wildlife and marine habitat; (2) conflict with popular small boat anchorage at Whitestone Harbor; (3) physical inadequacy of sites during windstorms; and (4) long-term planning objectives for the Whitestone Harbor and Freshwater Bay Management Areas.

Unit 326 in the Iyouktug drainage has been recommended by the IDT to exceed 100 acres in size. Blowdown patches throughout the valley indicate regular storm wind channeling. Unit 326 is located on a hillside that is frequently exposed to the high velocity winds. Small blowdown patches can be seen throughout the unit. The unit shape is based upon wind firm boundaries which should minimize blowdown along man-made edges. The resultant unit contains 175 acres. This is the minimum size that can be designed with windfirm boundaries.

One of the major benefits of completed allocation through TLMP is increased opportunity for longrange planning. During the course of developing the 1981-86 ALP operating plan, the IDT recognized that many benefits would be derived from developing an interconnected road system for management of the Whitestone Harbor and Freshwater Bay areas. Benefits include:

* Logical and systematic development of timber resources in the two management areas.

* Increased safety and decreased costs to administer timber operations and conduct other resource management activities from the road system.

- Established access to areas of outstanding recreational potential.
- Significant socioeconomic benefits to the two communities (Hoonah and Kennel Creek) which will be linked to this road system by the end of the 1981-86 operating period. The opportunity exists, as well, for private landowners to construct access roads to the road system. At present, this includes residents of the Mt. Bether community and five other private landowners in the Game Creek drainage. In the future, additional lands in private ownership through State land dispersal is anticipated.
- Opportunity for cooperative development of public and private lands, including the Huna Totem Corporation which has selected land in the Spasski drainage and possibly including Sealaska Corporation which has a secondary selection in VCUs 203, 204, and 205.

The IDT recognized, also, that this interconnected road system and coordinated management of the Whitestone Harbor and Freshwater Bay areas should be spread over two or more operating periods. A major consideration was:

- This portion of northeast Chichagof includes a resident population of approximately 1,000 persons (in Hoonah, Mt. Bether, and Kennel Creek). Over time, the increased economic benefits, employment opportunities, recreational potential, and improved transportation is considered highly desirable by these communities. However, intensive operations concentrated during one operating period, would encourage (if not guarantee) a "boombust" situation with extremely adverse social and economic effects.

Because of the immediate need to provide long-term (minimum 10-year) economic stimuli to Hoonah and Mt. Bether and encourage Mt. Bether road access, the decision was made to harvest timber in the Gartina drainage and Suntaheen valley. Iyouktug, and Gypsum/Wukuklook were deferred until the 1986-91 operating period. Additional harvest volume to the Hoonah log transfer site from Game Creek is discussed under the Freshwater Bay Management Area. Other reasons for this decision are:

- To access the volume desired during this operating period.
- To access those areas rated high by TLMP for creation and sport hunting and fishing. These are, principally, the Whitestone Harbor and the lower Game Creek areas. Although developed recreational facilities, eg. cabins, trails, or campgrounds, may not be established during this five-year period, it is anticipated that both area residents and others accessing the area by ferry and plane into Hoonah will use these newly-opened areas extensively.
- To meet current economic and social needs of area residents. A close association between the communities of Hoonah and Mt. Bether exists. In addition to a complex of social relationships, the two communities are economically associated through trade and by the employment of Mt. Bether residents in Hoonah. Agricultural marketing of products and jobs are, of course, benefits to Mt. Bether residents. In turn, Hoonah derives considerable trade benefits from the adjacent community and depends upon skilled craftsmen residing in Mt. Bether for plumbing, electrical work, carpenter services, cannery workers, and others. This association of the two communities has developed despite the extreme difficulty of accessing the Mt. Bether community across the extended Game Creek tide flat. At the request of the Hoonah City Council, planning for 1981-86 development on northeast Chichagof Island has been conducted jointly between the IDT and representatives of both communities. While the planned road into the Game Creek drainage will not access the Mt. Bether community, it will provide opportunity for the community to construct a road connection, thereby facilitating the desired association of the two communities.

Other benefits to area residents are discussed in Section III (Socioeconomic Effects).

FRESHWATER BAY MANAGEMENT AREA

Alternatives 1 and 8 (modified to improve resource protection) were selected for implementation in this management area. Although this area has high wildlife values, wildlife impacts were minimized through areas identified for habitat retention.

The Freshwater Bay Management Area contains 152 planned units in upper and Lower Game Creek, Freshwater, Kennel Creek, Hanging Valley, East Point, and Pavlof ridge and Seal Creek totaling 12.8 MMbm with about 104.4 miles of road. However, only 148.4 MMbm are anticipated for harvest from 105 units and 75.4 miles of road. Preroading into units 293-312 in Upper Game Creek may occur.

The preferred alternative includes a log transfer site at the mouth of Seal Creek for about 21 MMbm with up to 91 MMbm of timber being hauled to the presently active Kennel Creek log transfer site.

A road connecting Seal Creek with the Kennel Creek log transfer site was considered but rejected because of added costs and high fish and wildlife impacts.

Two units in the Seal Creek drainage are recommended by the IDT to exceed 100 acres in size. Unit 189 evidences long-term blowdown beyond that of the major blowdown in 1968. The proposed unit boundary encompasses the gross blowdown area and will constitute a 186 acre cutting unit. The alternative is a smaller unit which would increase blowdown in adjacent uncut areas. Since this timber would decay by the next entry, this volume would be lost as a usable resource.

The second area in Seal Creek recommended to exceed 100 acres is Unit 186. One-third of the unit was blown down in 1968. Numerous small patches within the unit are down and the edges of the large blowdown area appear to be blowing down as well. A 154-acre unit will salvage this volume and reduce potential for continuing loss.

Timber harvested from Game Creek (up to 105 MMbm) could be hauled to the Hoonah log transfer site requiring 35 to 55 miles of road depending on units harvested.

TENAKEE INLET MANAGEMENT AREA

Salt Lake Bay and Fifteen Mile Creek (VCUs 202, 222, 223) will be entered for timber harvest. VCU 202 is LUD III; VCUs 222 and 223 are LUD IV.

About 33 MMbm will be harvested from this management area with about 19 miles of road.

Modifications of alternatives 1 and 8, to reduce resource impacts, were selected for this area.

Eight log transfer sites were evaluated, three in Tenakee Inlet and five in Salt Lake Bay. Because of high marine productivity the three Tenakee Inlet sites were discarded even though these would significantly reduce log transfer costs. The site selected on the northeast shore of Salt Lake Bay is the one recommended by U.S. Fish and Wildlife Service and the National Marine Fisheries Service.

CRAB BAY MANAGEMENT AREA

Finger Creek, (VCU 247) allocated LUD IV, is the only VCU to be entered in this management area. About 13 MMbm will be harvested over about six miles of road. An additional four MMbm is available from units 377-380, requiring 0.7 miles of road, if volume is needed.

Alternative 1 was selected in developing the preferred alternative in this area. This area has high fish value with some particularly sensitive areas. These areas were, however, given adequate protection through retention. In deciding which areas to defer as a result of the cruise, several units at the lower end of Finger Creek were deferred for wildlife reasons. This is a significant acreage change over the DEIS proposal.

CORNER BAY MANAGEMENT AREA

Timber harvest in this management area will be in VCUs 237 (Trap Bay) and 238 (South Passage), both allocated LUD IV. About 20 miles of road will be built to harvest 38 MMbm. Considerably more volume may be taken if the 1968 blowdown timber is salvagable.

Alternative 2 was emphasized in this area to meet high visual needs. Wildlife concerns, considered significant, were also addressed. Alternative 1 was chosen for management in the back of two drainages.

A log transfer site at Trap Bay, operated from the Corner Bay camp with crew boat transport, is proposed.

KADASHAN MANAGEMENT AREA

There is only one VCU (Kadashan, VCU 235) in this Management Area. It is designated LUD III by the Tongass Land Management Plan. Extensive public response to the DEIS urged that Kadashan be deferred from timber harvest during the 1981-86 period. The interdisciplinary team and Forest Supervisor consider it desirable to meet this public concern with the result that harvest has been deferred.

Kadashan was nominated and instrumented for monitoring as a barometer watershed under the FALCON program of 1965. The recommendation to defer harvest in this period is consistent with the barometer watershed plan which calls for pre-roading prior to harvest. Consequently, the present monitoring program will be intensified and modified as necessary to evaluate effects of pre-roading activity. Three years of intensified monitoring will precede pre-roading which is proposed to begin in 1984.

Two roading options were identified in the DEIS, first a road around the front portion of the drainage and the second through the Hook Creek drainage in the upper Kadashan watershed. Both roads would access Kadashan from the existing Corner Bay Logging Camp. A third road option was suggested by the State of Alaska, Alaska Lumber and Pulp, and some individuals reviewing the DEIS. This third option would access Kadashan from Sitkoh Bay.

Connection with the existing Sitkoh Bay road may occur. The distance between this existing road and the proposed pre-roading in Kadashan is less than one mile. If the connection is made, however, it will be in addition to the recommended access road from Corner Bay. Selection of a Sitkoh Bay access road instead of the other options was rejected, based on the following considerations:

Access from Corner Bay vs. Sitkoh Bay

* Corner Bay is the site of an active logging camp; Sitkoh Bay is not.

* The Corner Bay camp will be more economical for long-term management.

* Continued operation of the Corner Bay camp provides economic stability to the community of Tenakee Springs.

The interdisciplinary team has recommended the front road option for the Preferred Alternative, based on the following considerations:

Front Route vs. Hook Creek Route

* More economical than Hook Creek road.

* Favored for soil, water, fisheries, and timber resources.

* Adverse wildlife impacts not substantially different than Hook Creek route, particularly after frontal access route is adjusted following further IDT field review.

* Allows temporary construction of a Hook Creek access road during a future entry period. Temporary roads will avoid two large V-notches (100 foot span on each).

* No visual impact from road. Location of borrow pit will be made with consideration of visual resource.

KELP BAY MANAGEMENT AREA

Catherine Island and Portage Arm contain about 44.8 MMbm from 55 units with about 29.1 miles of new road. However, it is anticipated that only 46 units (40 MMbm) will be harvested. The timber will be hauled over 36 miles of road to a reconstructed log transfer site at Hanus Bay.

Alternative 2 has been selected as the base from which to develop the recommended plan for Catherine Island. This decision was based primarily on high visual sensitivity.

Alternative 1 is the basis on which the preferred alternative was developed for Portage Peninsula.

EAST KUIU MANAGEMENT AREA

Alternative 4 was selected as the preferred alternative, replacing Alternative 5 (identified as the Recommended Action in the DEIS). Alternatives 4 and 5 differed only with respect to the location of a new log transfer site in Port Camden (Alternative 5).

Timber harvesting will be in Alvin, Reid, and No Name Bays, Threemile Arm, Seclusion Harbor, and Port Camden. All are LUD IV. The recommended action includes harvest of up to 130 MMbm and construction of about 110 miles of road. A new log transfer site will be located at No Name Bay; approximately 120 MMbm remains for harvest in the first entry and 630 MMbm for subsequent entries.

Alternative 4 was selected for the following reasons:

1. The management advantages of an extended mainline trunk road are met. The IDT and Stikine Area management team considered it important to develop the transportation system in a manner that the operator, as well as the Forest Service, can develop use patterns with compensation for logistic, economic, and ecological changes as they occur.

This management philosophy is in accord with the direction contained in the Tongass Land Mangement Plan for this management area (see Appendix). Specifically, it provides flexibility to spread the harvest units over a greater area without extensive cost increases and still obtain the mainline trunk road. In turn, this allows more options in the selection of units to be harvested in the future. Timber stands may be harvested over a longer period of time and/or in smaller units if management concerns warrant. Access for timber stand improvement in the form of thinning and mistletoe control, as well as salvage of wind-damaged stands, is enhanced.

Opportunities to use non-conventional yarding techniques in special management situations where management objectives require careful application of treatment to protect other resources are improved, since the added expense need not be borne in addition to the more basic development costs.

Overall costs of management, planning, and supervision become similarly more efficient as a result of a centralize facility which can accommodate a wide range of support functions including quarters, office space, and vehicles. Alaska Lumber and Pulp Company is currently addressing the opportunities to develop low-head hydroelectric power at its Rowan Bay camp, looking to sustained long-term operations on Kuiu Island. If successful, substantial energy savings can be expected for both Company operations and Forest Service management.

2. The DEIS provided for a further environmental assessment of the proposed log transfer site in Port Camden. Subsequent contacts were made with other concerned agencies and the Forest Service further investigated and prepared an Environmental Assessment relating to the Port Camden log transfer site proposal. A summary of that report and record of decision is contained in the Appendix.

The IDT reviewed the original site proposed in the DEIS, alternative locations to that site, and the possibilities for barging all logs from the site to the mill. They confirmed that:

a) Substantial savings in fuel consumption result from developing a log transfer site in Port Camden;

b) The proposed site would not meet the environmental criteria for a conventional log transfer site but that it did have lower overall impacts and development costs if developed for barging logs;

c) An alternate site nearby could accommodate a conventional log transfer site meeting most Southeast Alaska Area Guide criteria.

With some further qualifications, the latter constituted the IDT recommendations.

The decision of the Stikine Area's management team was that there will be no requirement for developing a log transfer site in Port Camden in the 1981-86 operating period. The decision recognizes that supporting data is inconclusive with respect to the exact best location of three alternate sites investigated, the economics and viability of a total barging operation, and lack of confirmed support by other concerned agencies.

Support by other agencies involved the question of whether a traditional log transfer facility in the designated area of Port Camden might have adverse consequences on the future of the commercial fishery in Port Camden. National Marine Fisheries Service, in response to a Forest Service inquiry relating to the long-term use of the Rowan Bay log transfer site, expressed an opinion. They stated:

"It should be understood that an estuarine environment is dynamic, that complex and poorly defined interrelationships exist among an estuary's biological communities, and that these communities may be affected directly and indirectly by many factors and perturbations acting above or in combination with other factors."

They go on to suggest that it would take many years to quantitate and statistically verify the effects of any particular log transfer site on an estuarine environment.

The Forest Service believes that much of the concern expressed in this comment could be alleviated through a properly designed site which would accomodate the barging of logs. There has not been however, an expression of judgment by other agencies as to whether such an operation might be entirely satisfactory.

While the alternative of requiring a log transfer site in Port Camden is not required at the present time, the IDT has described a viable option to the site proposed in the DEIS. There is an unspecified volume of timber remaining on the Camden Peninsula which has not been evaluated for inclusion in the 1981-86 operating plan. There are also other possibilities for the location of a log transfer site to facilitate transport to processing facilities. Additional time is therefore provided to plan for the development of the remaining timber resource, investigate alternative log transfer sites beyond those surveyed to date, seek agreement with industry and concerned agencies on the type and location of suitable facilities, and to examine road funding options other than timber purchaser construction. Economics in transportation relating to log haul and fuel consumption and the further development of timber stands addressed in this environmental statement, and others on Camden Peninsula to be harvested in the future, may, however, require that one of the sites evaluated by the IDT be developed.

Responses to the DEIS from the U.S. Fish and Wildlife Service, National Marine Fisheries Service, and Alaska Department of Fish & Game indicated that the Forest Service misinterpreted previous information furnished about the suitability of the proposed log transfer site to be located in No Name Bay, as depicted in the DEIS. The actual location of the No Name Bay log transfer site will be determined with the help of these agencies and ALP through the IDT process. The preferred locations as identified by these agencies and ALP, will be among the alternatives addressed.

Much of the volume on Camden Peninsula is of low priority for harvest in the 1981-86 period because of the criteria used in that process (see earlier discussion this section). Timber stands on Camden Peninsula exhibit lower volumes per acre than occur on the remainder of the Management Area.

If in fact, all of the designated units are not harvested in the plan period, the economics of development in future periods may not be as favorable to the "sale as a whole" as they are at the present time. In general, there appears to be a trend toward less volume per mile as we look toward subsequent entries. Therefore, it will be more difficult to economically carry such areas as the Camden Peninsula. For this reason, the preferred alternative maintains the option for the Forest Service to preconstruct all or portions of the mainline road on Camden Peninsula for use when needed. Road preconstruction for later use provides greater management flexibility to reduce the density of harvest units if warranted by other resource considerations.

Effects of Implementing Preferred Alternative.

a. Soils

Timber will be harvested from 15-24,000 acres (depending on areas entered). Logging operations will create an estimated 5 percent to 10 percent of bare mineral soil which will be more erosive than undisturbed sites. While sedimentation in V-notches will be greater than for unharvested areas, overall increased sedimentation should be minimal, depending on stream proximity, soil type, and size of disturbance. Logging disturbances are usually less than one-fourth acre in size. The primary impact will be a decrease in soil productivity on the disturbed site, though this impact is negligible if disturbed areas are small and dispersed.

Erosion (sedimentation) increases and site productivity is reduced where roads are constructed. Sedimentation from roads will be minimized through grass seeding and proper road engineering including road location. In most cases, accelerated surface erosion will be short term (less than about five years).

Soil concerns in this plan are primarily related to mass failures resulting from logging or road construction. Harvesting is proposed in some areas where slopes may exceed 75 percent. About 1200 such acres have been identified on the ground or by stereo photometry. These areas may pose extreme hazards, depending on factors such as soil type, slope configuration, and sub-surface (slip plane) conditions. Detailed ground review will occur before a harvest decision is made. Confirmed areas of high hazard will not be logged.

Deposits of fine-textured (clay) soils are present in some areas. These soils are inherently unstable, highly erosive and difficult to stabilize when exposed. These soils are difficult to identify and the extent of clay deposits is not known. Road construction will be avoided in known occurrence areas to the extent possible. Where avoidance is not feasible, advanced road construction and slope stabilization techniques will be implemented for resource protection. Roading in Seal Creek contains about 400 feet of road section over clay soils on very steep slopes (60 to 70 percent). Failure along this section could have serious impact on the stream below. Extreme caution and special road design measures will be exercised.

On-ground review of many areas will be made to assure that adequate protective measures are taken for the protection of soils and other impacted resources.

Considerable contingency volume in deferred areas has been provided to allow for harvest deferral on soil areas not suitable for timber harvest.

b. Water

Potential water resource impacts are reduced or attenuated by unit modifications. These modifications are the result of harvest unit changes to avoid unstable slopes and areas and to minimize road proximity to fish streams.

Suspended sediment production associated with road construction and usage may be reduced or eliminated by proper construction and maintenance techniques. On-ground review by engineering and watershed personnel may insure that maintenance is performed in a timely fashion.

Streamflow changes will occur as a result of forest harvesting. The avoidance of unit concentration in a small portion of the watershed area and harvesting of forest lands other than the lowlands will attenuate streamflow changes. Water quality changes will likewise be attenuated due to unit dispersion.

Harvest unit dispersion will reduce the amount of harvesting of timber along streambanks and reduce potential thermal problems. Bufferstrips or greenbelts will filter surface waters of suspended sediment and general logging debris.

On-site reviews will be made to monitor best management practices to reduce potential impacts to water resources.

c. Silviculture.

With the exception of three units discussed earlier, maximum harvest unit size in the preferred alternative is 100 acres. While the best choice of unit location and configuration was made in accord with demonstrated windfirm guidelines, reduced unit size adds risk to successful achievement of windfirm boundaries. The number of units with blowdown risk is low in proportion to the overall number of harvest units.

TABLE 22. COMPARISON OF PREFERRED ALTERNATIVE WITH OTHER ALTERNATIVES

ALTERNATIVES:	#1	#2	#3	#4	#5	#6	#7	#8	PREFERRED ALTERNATIVE Anticipated Harvest	PREFERRED ALTERNATIVE Total Planned
Total Volume Identified in Alternative (MMbm)	395	395	395	130	130	130	130	554	452	641
Percent of Operable 1/ Timber Cut Previously or As proposed (based on TLMP data)	27	20	15	15	15	15	15	29	22	30
Total Number of Units	156	340	346	83	83	61	61	291	335	467
Average Unit Size (ac)	73	39	35	61	61			68	48	48
Miles of Road	140*	200*	260*	110	111	100	100			
Number of Camps	3	7	10	1	1	1	1	8	8	8
Number of Log Transfer Sites	4	9	12	2	2	1	2	7	9	9
Plan Implementation Costs (public investment required) ($ million)	0	0	6.1	0	0	0	0	0	5.6	-

1/ Based on TLMP data.

Site index as an indication of soil productivity is believed to be reduced by approximately 20 units as a result of windthrow.

Studies indicate that irregularly shaped clearcuts smaller than 50 acres are more susceptible to mistletoe reinfestation than are larger, regularly shaped units.

Silvicultural benefits achieved in the plan include:

1. Minimized blowdown potential in most proposed units.

2. Sufficient volume is retained on the road systems to allow future management.

3. Interconnecting road systems allow for efficient postharvest timber management practices including such cultural practices as precommercial thinning, mistletoe control, planting and release work, as well as salvage of blowdown material.

4. Two intermediate cutting units are planned. One is a commercial thinning unit in the Finger Creek drainage. The other is a commercial thinning unit and overstory removal in Upper Game Creek.

In addition, three areas are proposed for partial cutting; two located in Kennel Creek, and one in Alvin Bay are to permit study of tree roots and soil stability on oversteepened slopes. An additional partial cut may occur Trap Bay where partial cutting may reduce visual impacts.

The Forest Service has implemented a cooperative agreement with ALP to explore the use of a running skyline mobile yarder system. This system has proved to be highly versatile in meeting resource protection and overall silvicultural requirements and is being used extensively in the Pacific Northwest. Previous use in southeast Alaska has not been adequately matched with resource protection requirements so that results could be monitored. The cooperative agreement is intended to provide the opportunity for testing the impact of "Best Management Practices" prescription such as partial cutting, full suspension and partial suspension yarding on steep slopes.

d. Wildlife

Interdisciplinary team interaction to develop the preferred alternative included modified unit design and layout to reduce adverse impacts to wildlife and other resources. Cutting in some sensitive habitats has been deferred to lessen the localized impacts and to spread the impacts over time. (See Table 19, page 127). An attempt has been made to disperse the units to provide adequate corridors for wildlife, and to leave intact blocks of vegetation from alpine to sea level. Critical wildlife habitat, such as deer winter range, bear, and waterfowl concentration areas, and areas of high use by furbearers have been avoided to the extent possible. Much of this critical habitat will be retained throughout the first rotation and beyond.

An unavoidable consequence of the preferred alternative is the conversion of mixed-aged, old-growth habitat into even-aged regeneration. The resulting even-aged timber stands, if left unmanaged, will not revert to mixed aged old-growth vegetation for about 300 years (Ralston, 1979). However, some studies in progress are designed to evaluate the success of thinning as a deer habitat enhancement technique.

Chatham-Wildlife Effects

The site specific account of impacts on wildlife habitat that follows is arranged according to sequence of entry and by Management Area. First consideration is given to the Management Areas included in Units 1-292. Subsequent discussion concerns the additional areas that will be entered only if volume requirements are not met in the primary plan.

Units 1-61

Whitestone Management Area was rated moderate to low for wildlife, as reflected in the TLMP LUD IV ratings in the seven VCUs within the area. However, individual species ratings were high for deer, brown bear, and furbearers. A portion of the critically important habitats have been protected through retention classification.

Two areas of special interest in the Suntaheen Creek area were deferred for further study and evaluation. One may contain a unique plant species. This species was searched for but not found in preparation for this EIS.

Cutting units proposed in two watersheds in this Management Area total about 3,300 acres. Considering the cumulative effects of cutting units, road construction, and development of related facilities, potential change may affect about 17 percent of the VCUs entered.

Units 62-112 and 137-190

Freshwater Bay Management Area contains high value wildlife habitat. Most critically important habitat in this management area is protected through designation of wildlife habitat management units and retention areas. Significant adverse impact to sensitive wildlife habitat has been avoided by proposing the Seal Creek log transfer site at the north side of Freshwater Bay rather than an interconnecting road system through the estuarine flats at the head of Freshwater Bay.

Although the large Game Creek drainage has important deer, brown bear, furbearer and waterfowl habitat, major conflicts have been avoided by placement of units away from the river and outside the coastal deer winter range.

Impacts to wildlife habitat have been further reduced during this operating period by deferring units. Units have been deferred to maintain more leave in areas with concentrations of units, to avoid some of the more sensitive areas, and to shorten roads where harvesting has been deferred for whole valleys.

In all, about 69 miles of road will be constructed in this Management Area which accounts for the loss of approximately 450 acres of various types of habitat. An additional 5,600 acres of old-growth timber is scheduled for cutting and conversion to even-aged regeneration timber stands.

Units 113-136

The Tenakee Management Area may be impacted more significantly by the road system proposed than by the cutting units. Roads between the log transfer site and the west end of the Salt Lake Bay chuck and along the valley into 15-Mile Creek impact 23 acres of critical deer winter range or high-use deer habitat. Two proposed rock pits and construction of a maintenance facility (no housing facility proposed) would increase this impact.

The north side of the 15-Mile Creek drainage would be logged fairly heavily, resulting in change of habitat diversity through harvest of old-growth timber. However, wildlife travel corridors from upper elevation summer habitat and lower elevation winter range are provided. The most sensitive wildlife zones along the coast of Tenakee Inlet are protected with retention zones.

Units 191-239

Corner Bay Management Area is included in the Preferred Alternative with proposed harvest in Trap Bay. Proposed roads include 4,200 feet of beach road and an additional nine miles of road in low elevation deer winter range. With construction of a maintenance camp, a total of approximately 54 acres of deer winter range are thus impacted by construction activities. Eagle nesting trees along the beach fringe could also be impacted by the road although the log transfer site has been moved in the proposal to avoid conflict with an eagle nesting tree. Bear use and furbearer denning may also be disturbed by roading and other beach fringe activities.

In total, about 20 miles of road is proposed which means the change of about 120 acres of habitat. An additional 1150 acres of timber is planned for cutting.

Units 247-292

Kelp Bay Management Area proposal includes harvest on Catherine Island and Portage Peninsula. Reactivation of the Hanus Bay logging camp, log transfer site, and existing roads (including the causeway and bridge between Hanus Bay and Portage Arm) would not pose new impacts to habitat but would result in human disturbance to several species. Roading south of Local Creek on Catherine Island changes 36 acres of deer winter range, furbearer denning sites, and bear habitat. This road may infringe on at least one eagle tree buffer zone and will require site specific review.

Most individual cutting units proposed on Catherine Island and Portage Peninsula pose minimal impact to wildlife habitat. Some larger units are proposed at the head of certain valleys to compensate for increased protection of more sensitive areas nearer the coast.

Approximately 1200 acres of old-growth timber are scheduled for harvest in this Management Area.

The north side of the 15-Mile Creek drainage would be logged fairly heavily, resulting in loss of habitat diversity through harvest of old-growth timber. However, wildlife travel corridors from upper elevation summer habitat and lower elevation winter range are provided. The most sensitive wildlife zones along the coast of Tenakee Inlet are protected with retention zones.

Units 191-239

Corner Bay Management Area is included in the Preferred Alternative with proposed harvest in Trap Bay. Proposed roads include 4,200 feet of beach road and an additional nine miles of road in low elevation deer winter range. With construction of a maintenance camp, a total of approximately 54 acres of deer winter range are thus impacted by construction activities. Eagle nesting trees along the beach fringe could also be impacted by the road although the log transfer site has been moved in the proposal to avoid conflict with an eagle nesting tree. Bear use and furbearer denning may also be disturbed by roading and other beach fringe activities.

In total, about 20 miles of road is proposed which means the loss of about 120 acres of habitat. An additional 1150 acres of timber is planned for cutting.

Units 247-292

Kelp Bay Management Area proposal includes harvest on Catherine Island and Portage Peninsula. Reactivation of the Hanus Bay logging camp, log transfer site, and existing roads (including the causeway and bridge between Hanus Bay and Portage Arm) would not pose new impacts to habitat but would result in human disturbance to several species. Roading south of Local Creek on Catherine Island impacts 36 acres of deer winter range, furbearer denning sites, and bear habitat. This road may infringe on at least one eagle tree buffer zone and will require site specific review.

Most individual cutting units proposed on Catherine Island and Portage Peninsula pose minimal impact to wildlife habitat. Some larger units are proposed at the head of certain valleys to compensate for increased protection of more sensitive areas nearer the coast.

Approximately 1200 acres of old-growth timber are scheduled for harvest in this Management Area.

Crab Bay Management Area The proposed floating logging camp would be located at Finger Creek in a non-estuarine tidal flat area. While disturbances to waterfowl, bear and furbearers are anticipated and short-term impacts to the tidal flat environment may result, this camp avoids the long-term impacts of an upland camp. The log transfer site will create additional impacts to the coastal and marine environments.

In an attempt to minimize impacts in an important segment of low elevation wildlife habitat three lower valley units (141 ac) have been deferred. Unit #6, the remaining lower valley unit, is a proposed thinning operation in an 80-year old previously harvested area. This unit is to be commercially thinned considering biologist's recommendations as to harvest methods, volume to be removed and timing of operations. Rehabilitated deer winter range and habitat research data may be gained from this undertaking.

Kadashan Management Area will be pre-roaded from the Corner Bay Logging Camp. The Kadashan drainage has high value fish and wildlife habitat as identified in TLMP and by the Alaska Department of Fish and Game. Recognizing these and other concerns, special considerations were given to timber development proposals in this area.

Roading access has been chosen to begin at Corner Bay Logging Camp and come around the north (Tenakee Inlet) side of the mountains into Kadashan watershed. This road will remove approximately 13.5 miles of low elevatio deer winter range in an area that has already been affected by three earlier cutting units. A total of about 17 miles of road are proposed in this drainage which equates to approximately 100 acres of impacted habitat.

Units 293-312

Freshwater Bay Management Area

Upper Game Creek units 293-312 would be the first units added if more volume is needed. This means entering additional valleys within the area and accounts for an extra 1000 acres of clearcutting and 20 miles of road. No critical or sensitive wildlife habitat areas would be entered.

Units 313-335

Whitestone Management Area would have expanded timber harvesting into the Iyouktug River Drainage if the units beyond 312 were added. Approximately 1,350 acres are proposed to be cut under this plan. Abcut 13.4 miles of road would be constructed to service the cutting units with impacts to of approximately 80 acres of wildlife habitat.

Units 336-343, 353-359, and 361-368

Freshwater Bay Management Area. An additional 1,080 acres of old-growth timber would be converted to regeneration for a total of about 6,700 acres. Included in this acreage are six units atop Pavlof Ridge. A reduction in the size and number of wildlife corridors would occur. More timber adjacent to riparian zones utilized by bear and certain furbearer and avian species would be cut. Some lower elevation timber in deer spring, fall and winter ranges would be lost.

Units 344-352

Kelp Bay Management Area. Approximately 160 acres additonal old-growth timber would be harvested. An unbroken string of units would occur along the east side of the island with a reduced amount of old-growth "leave" for deer habitat.

Units 360 and 369-376

Whitestone Management Area. Units totaling 550 acres would be added to the proposed 3,300 acres of timber scheduled to be harvested. Two areas deferred for further study would be cut.

Units 377-379

Crab Bay Management Area. Three units (120 acres) would be cut. These units are in lower elevation spring, fall and winter range for deer. A total of about 430 acres of old-growth timber would be harvested in this drainage.

Units 380-385

These units mostly involved portions of units that are within fishery sensitivity zones and thus constitute riparian habitat. Inclusion of these units into the Operating Plan for the five Management Areas involved thus would mean loss of habitat for those species utilizing streamside habitat. This would include brown bear, river otter, mink and certain birds.

Stikine-Wildlife Effects

East Kuiu Management Area. Marine, estuarine, and terrestrial habitats will be affected to some degree addressed in Alternative 4. Waterfowl, eagles, black bear concentrations, and deer wintering habitat were emphasized by the interdisciplinary team in developing the proposal.

Waterfowl may be displaced to more remote locations as a result of construction, timber harvesting and road traffic. The significance, duration, or magnitude of this is not known.

Hunting pressure on some species might increase locally because of improved access but would generally tend to disperse hunting away from other areas. Overall, the harvest of bear, wolf, and waterfowl by logging camp inhabitants would remain relatively stable. Developments as proposed would not necessarily attract other visitors to the area; however, eventually time a commercial recreational enterprise might be attracted to the area as a result of the extended road system.

Specific impacts on wildlife habitat and high risk situations within management areas are detailed in wildlife reports available from the Chatham and Stikine offices. An on-the-ground review by wildlife biologists will be conducted during field layout of units and roads identified as having a high risk of adverse impact or otherwise requiring review.

d. Fisheries

The analysis of impacts on fish habitat, resulting from proposed development, was based on aerial photograph interpretation and field analysis of a logging plan developed for earlier drafts. Subsequent changes in the proposed plan have not substantially altered the following analysis.

The comparison of the preferred alternative with the other Chatham Area alternatives is shown in Table 23. Fisheries data on Chatham Area streams is displayed by watershed for the Preferred Alternative in Table 24. These tables show the preferred action to be relatively sensitive to environmental concerns while still allowing a timber harvest. Some Fish Habitat Sensitivity Zones were placed in "deferred" status. (See Table 19, page 121.) Many of the zones can likely be removed from the "sensitive" classifications by on-the-ground verification. Projected impacts to the fishery habitat if this action is implemented are greater than Alternative 3, but less than Alternatives 1, 2, or 8.

Where harvest units have not yet been defined on the ground, they are designated on aerial photos. Fisheries biologists have and will continue to assist in the layout of harvest units which involve fisheries resource values. Stream protection measures will be applied where environmental risk is unavoidable.

A fisheries biologist will walk all road corridors prior to construction staking; all stream crossings will be examined and drainage structures which provide for upstream migration of anadromous fish will be recommended and included on construction plans. All units in Fish Habitat Management Units will be reviewed and those in Fish Habitat Sensitivity Zones will be given thorough evaluation on-the-ground before harvest. Management prescriptions are recorded on Field Management Forms on file with Chatham and Stikine U.S. Forest Service offices (see sample in Appendix).

The Preferred Alternative will probably result in some increase in sediment addition to a number of the fish streams since some channel alteration and stream bank damages will occur. It is believed that these effects will be negligible and have short-term consequences. Some blowdown of timber into streams is expected despite harvest units designed to prevent this. However, by involving a fisheries biologist in unit layout, adverse impact on the fisheries resource will be minimized.

e. Visual and Recreation

Road systems provide increased recreational access. Opportunities for beach associated activities, e.g., driftwood collection on beaches, hiking in spectacular alpine areas, fishing, hunting and other recreational activities would be provided by the road system and future trail development in the Whitestone and Game Creek drainage.

TABLE 23 COMPARISON OF FISHERIES DATA ON CHATHAM AREA*

ALTERNATIVE NUMBER	1	2	3	8	PA 1/
% OF WATERSHED CUT	13.4	9.0	7.0	10.0	4.4
LENGTH OF STREAM TO BE CUT BOTH SIDES (total Mi)	10.8	7.6	1.6	2.4	2.3
% OF STREAM TO BE CUT BOTH SIDES	8.3	6.2	1.3	2.2	1.1
LENGTH OF STREAM TO BE CUT ON ONE OR BOTH SIDES (total Mi)	30.2	23.6	9.9	36.0	0.4
% STREAM CUT ON ONE OR BOTH SIDES	23.0	19.0	8.0	33.0	3.8
ACRES FHMU HARVESTED	382.0	267.0	189.0	580.0	314.0
% HARVESTED IN FHMU	37.0	37.0	35.0	68.0	33
ACRES FHSZ HARVESTED	140.0	73.0	25.0	81.0	7.0
% HARVESTED IN FHSZ	14.0	10.0	5.0	10.0	0.5

PA = Preferred Alternative
* = Average value of all areas.

1/ Figures may change, depending on treatment of Fish Habitat Management Units and Fish Habitat Sensitivity Zones when the plan is implemented (see page 127a).

The proposed roads in the East Kuiu Mangement Area will provide access to a larger area and will make it possible for more recreationists to use inland areas.

Residents of the Rowan Bay camp will use the road for recreation purposes accessing inland areas as well as all major saltwater bays of East Kuiu from Port Camden south to Reid Bay, therefore, providing a great variety of recreation opportunities (hunting, fishing, camping, hiking, cross country skiing, beachcombing, nature observation, etc.).

KEY FOR TABLES

FISHERIES DATA PER WATERSHED

Column	Data Provided
1	The watershed areas were determined with a polar planimeter on 1:63,360 maps.
2	Percent of watershed proposed for logging is area in a watershed to be logged divided by the total area of that watershed.
3	Total stream length comprises known and suspected fish habitat above and below barriers to fish passage. Stream lengths were measured on 1:63,360 maps.
4	Percent of total stream length with proposed logging along either one or two sides of the stream.
5	Percent of total stream length proposed to be cut on both sides.
6	Total acreage of Fish Habitat Management Units (FHMU), estimated from inspection of each proposed cutting unit on aerial photographs. In the context of this study, a FHMU is an area, within a proposed cutting unit, that contains salmonid (resident and anadromous) fish habitat and uplands in which development will likely affect fish habitat.
7	Percent of the total area proposed for logging that comprises FHMU.
8	Total acreage of Fish Habitat Sensitivity Zones (FHSZ) estimated from inspection of each proposed cutting unit on aerial photographs. In the context of this study, a FHSZ is an area, within a proposed cutting unit or at a bridge site, that contains salmonid (resident and anadromous) habitat that is important or critical for fish production and/or sensitive to development activities.
9	Percent of the total area proposed for logging that comprises FHSZ.

Some units which are visually sensitive were "deferred" to later entries. (See Table 19, page 121).

The road systems are generally located under this plan to facilitate National Forest Management Activities; however, in some cases are not situated to best take advantage of specific recreational points of view, especially in TLMP Land Use Designation (LUD) IV areas.

The positive effects of increased access will be diminished somewhat by the intensity of proposed landscape alterations which would detract from enjoyment of the natural surroundings. Successive harvest entries will result in both short and long-term effects.

Chatham Area Analysis

Effects of implementing the Preferred Alternative can be reviewed by comparing differences between inventoried (Table 25A) and adopted (Table 25B) Visual Quality Objectives.

In general, the Alaska Marine Highway, small boat waterway and associated anchorages, and road systems are being managed according to inventoried visual quality objectives. Public use areas, views from the roads, proposed hiking trails and cabins will not be managed according to the inventoried objective. Adopted objectives for these features will be somewhat lower due to resource management trade-offs.

Table 25B shows Viewer Sensitivity Levels associated with Adopted Visual Quality Objectives. Table 26 lists mitigation measures associated with the Adopted Visual Quality Objectives.

Table 24 - Fisheries Data, Preferred Alternative (Chatham Area) 1/

STREAM NAME	ADF&G AREA	WATERSHED AREA (MI.2)	HARVESTED (PERCENT)	STREAM LENGTH (MI.)	% OF STREAM CUT ON 1 OR BOTH SIDES	% OF STREAM CUT ON 2 SIDES	ACRES CUT IN FHMU	% OF HARVEST IN FHMU	ACRES CUT IN FHSZ	% OF HARVEST IN FHSZ
Kadashan	112-42-25	23	1.8	14	0	0	280	40	0	0
Freshwater	112-50-30	39	1.6	28	3	0	126	12	0	0
Game Creek	113-31-13	49	2.3	28	2	0	900	46	0	0
Kennel Creek	112-50-20	13	3.4	7	2	0/11	189	37	0	0
Trap Bay	112-12-34	8	6.4	6	5	3	317	28	15	2
Suntaheen	114-27-15	14	6.6	7	8	1	300	19	0	0
Seal Creek	112-50-38	12	3.2	8	5	5	348	56	0	0
Gartina	114-31-9	8	8.7	6	3	2	439	37	55	4.6
Finger Creek	113-55-1	8	2.8	4	5	0	90	25	0	0
Salt Lake Bay		5	7.3	3	5	0	150	23	0	0

1/ Figures may change depending on treatment of F.H.M.U. "and F.H.S.Z." when the plan is implemented.

LEGEND

H = High*
M = Medium*
L = Low*

*Viewer Sensitivity (see glossary)

Management Areas	Whitestone			Freshwater								Upper Tenakee		Crab Bay	Kadashan	Corner Bay	Kelp Bay		East Kuiu					
	Gartina Creek	Suntaheen	Iyouktug	Lower Game	Upper Game	Freshwater	Seal Creek	Kennel Creek	Hanging Valley	Pavlof Ridge	East Point	Salt Lake	15 Mile	Finger Creek	Kadashan	Trap Bay	Portage Arm	Catherine Island	Port Camden	Three Mile Arm	Seclusion Hbr Salt Lagoon	No Name Bay	Alvin Bay	Reid Bay
Alaska Marine Highway	H	H	H	H	-	H	H	-	-	H	H	-	-	H	H	H	H	H	-	-	-	-	-	-
Small Boat Waterway	H	H	H	M	M	H	M	-	-	H	H	M	M	M	M	H	M	H	M	M	M	M	M	M
Public Use Areas	H	-	M	H	M	M	M	-	-	M	M	-	-	-	M	-	M	-	M	-	H	-	-	-
Road System Only (Mainhaul)	M	M	M	M	M	M	L	M	M	M	M	L	L	L	M	L	L	L	L	L	L	L	L	L
(Spurs)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
(Mainhaul)	M	M	M	M	M	M	L	M	M	M	M	L	L	L	M	L	L	L	L	L	L	L	L	L
(Spurs)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
Small Plane Route	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
Boat Anchorages	H	H	-	H	-	M	M	-	-	H	H	-	-	-	M	-	M	M	M	M	M	M	M	M
Hiking Trails	M	-	M	M	M	M	-	-	-	M	M	-	-	-	-	-	-	-	-	-	-	-	-	-
F.S. Cabins	-	-	M	M	-	M	-	-	-	M	M	-	-	-	-	-	-	-	-	-	-	-	-	-

Table: 25A Viewer Sensitivity Levels Associated with Inventoried Visual Quality Objectives (see Glossary, Visual Quality Objectives).

LEGEND

H = High*
M = Medium*
L = Low*

*Viewer Sensitivity (see glossary)

Management Areas	Whitestone			Freshwater								Upper Tenakee		Crab Bay	Kadashan	Corner Bay	Kelp Bay	
	Gartina Creek	Suntaheen	Iyouktug	Lower Game	Upper Game	Freshwater	Seal Creek	Kennel Creek	Hanging Valley	Pavlof Ridge	East Point	Salt Lake	15 Mile	Finger Creek	Kadashan	Trap Bay	Portage Arm	Catherine Island
Alaska Marine Highway	H	H	H	H	-	H	H	-	-	H	H	-	-	H	H	H	H	H
Small Boat Waterway	H	H	H	M	M	H	M	-	-	H	H	M	M	M	M	H	M	H
Public Use Areas	M	-	L	L	L	L	L	-	-	M	M	-	-	-	M	-	M	-
Road System Only(Mainhaul)	M	M	M	M	M	M	L	M	M	M	M	L	L	L	M	L	L	L
(Spurs)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
View Seen From Road (Mainhaul)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
View Seen From Road (Spurs)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
Small Plane Route	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
Boat Anchorages	H	H	-	H	M	M	M	-	-	M	H	-	-	-	M	-	M	M
Hiking Trails	M	-	L	L	L	L	-	-	-	L	M	-	-	-	-	-	-	-
F.S. Cabins	-	-	L	L	-	L	-	-	-	M	M	-	-	-	-	-	-	-

Table: 25B Viewer Sensitivity Levels Associated with Adopted Visual Quality Objectives, Chatham Area (see Glossary, Visual Quality Objectives).

Table 26

Mitigating Measures Associated with Adopted Visual Quality Objectives which may be implemented following IDT review

Unit	Area	Management Activity
3, 372, 375, 376	Suntaheen	burn
368	Lower Game	burn
357	Freshwater	burn
120, 121, 122, 123, 127, 128	Salt Lake Bay	burn
114, 117, 118	15 Mile	burn
337, 341, 342, 343	Pavlof Ridge	burn
175, 35, 354	East Point	burn
377, 378, 379	Finger Creek	burn
278, 281, 347, 348, 349, 350, 351	Catherine Island	burn
249, 254, 344, 345	Portage Arm	burn
Main Road connecting Hoonah to False Bay including spurs to trail heads in Suntaheen Unit 375 and Iyouktug Unit 313.		Complete roadside grass seeding of disturbed soils. No roadside rock quarries.
Main Road connecting Hoonah to Pavlof Lake, East Point and Cannery Cove.		Complete roadside cleanup and grass seeding of disturbed soils. No roadside rock quarries.
Main Road connecting Hoonah to Upper Gamer Creek Unit 299.		Complete roadside cleanup and grass seeding of disturbed soils. No roadside rock quarries.

Slash burning as a method of reducing color contrast will be considered. Prescribed burns in Kennel Creek have shown this to be effective. It also benefits travel by wildlife and man.

Several other aspects of this plan will enhance recreation opportunities and somewhat reduce potential visual impacts. Use of a floating logging camp proposed in the Crab Bay Management Area would reduce visual impacts on the scenic estuary at the mouth of Finger Creek. The location of the log transfer site at Hoonah avoids visual impacts and displacement of the popular small boat anchorage at Whitestone Harbor.

Stikine Area Analysis

In the East Kuiu Management Area the impact of timber harvest will be apparent from saltwater viewpoints with the possible exception of Port Camden. In all cases, however, units reflect the naturally appearing landscape, will not be viewed from major water travel routes, and will meet recommended visual quality objectives. Inland harvest units will be visible from the proposed road system. They will, however, be viewed as middleground and foreground by relatively few recreationists and will therefore have low visual sensitivity.

The proposed log transfer at No Name Bay will provide salt water access to the entire Kuiu Island road system from the east side of the island.

The management of the visual resource in highly sensitive water-oriented public zones is the primary benefit of this plan. In compliance with TLMP, the important aesthetic qualities within the management areas associated with recreational travel routes and use areas and viewing areas from local communities will be largely protected. The remaining areas which are used and seen less frequently and thus do not carry highly protective Visual Quality Objectives, will be managed with emphasis on harvest economics.

Monitoring Requirements

Soils

The Forest Service, through administrative studies incorporated in the 1981-86 operating plan, is actively pursuing the development of better management practices for sensitive soil areas. With the expanded use of skyline systems during this sale period, new resource protection techniques may be available. Where suspension of logs is attainable, harvest of severely V-notch dissected slopes and partial cutting on unstable slopes may be possible and less impacting than normal high-lead harvest. To evaluate the feasibility of skyline harvest on these sensitive soil areas, two such areas are planned for harvest. Detailed study plans will be developed for each area prior to harvesting and an evaluation of the degree of resource protection provided will be made.

Fish

A monitoring plan during implementation of timber harvest will measure the following activities:

* Instream activities that influence fish habitat such as installation and removal of drainage structures, will be briefly monitored for sediment production and habitat disruption at selected sites.

* Long term effects of logging on alluvial fans and floodplains are currently being monitored. These studies may be extended through 1981. Changes in channel morphology, debris loading, and the extent of flooding will be measured in order to formulate Best Management Practices.

* An interagency fishery research program has been prepared that will monitor three streams to obtain information on how to protect and improve freshwater and estuarine habitat of fish and invertebrates in Alaska. Participants in the study are the Forest Sciences Laboratory of the Pacific Northwest Forest and Range Experiment Station (USDA Forest Service) and the Auke Bay Laboratory and the Alaska Fisheries Center (National Marine Fisheries Service).

* Streams will be surveyed to the level necessary to detect post-development chances in physical aspects of fish habitat.

Water Resources

Public Law 92-500 gives direction to develop guidelines for identifying and evaluating the nature and extent of non-point source pollutants and procedures to control pollution resulting from silvicultural activities.

In cooperation with the U.S. Geological Survey, the Forest Service has been monitoring water quantity and quality from undisturbed watersheds since 1966. In the last few years, other stations have been initiated by the Forest Service to sample water quality more intensively in order to better define non-point pollution as addressed by the Federal Water Pollution Control Act of 1972. During and after road construction and timber harvesting in these watersheds, water quality or quantity changes will be measured.

Cultural

Even after completion of archeological surveys, further precautionary measures must be provided in order to meet all legal criteria. Because of the density of the vegetation in southeast Alaska and the nature of the resources involved, it is impossible to guarantee that no further cultural resources will be found in areas previously surveyed. To ensure that these possible finds will be protected, archeological observation is recommended for all areas where any construction or ground disturbance will take place.

In the event that previously undiscovered resources are found in the course of such events, activities which may impact the resources must be suspended until the evaluation of the resource is completed and mitigation measures, if necessary, may be developed. It is believed, however, that timely execution of surveillance plans will both fulfill legal obligations and provide the best possible insurance against major disruption of the operating plan due to unexpected discoveries.

Wildlife

Much is still to be learned about the impacts of timber harvesting in southeast Alaska on wildlife habitat and populations. A monitoring plan will be developed to identify and evaluate impacts on either an areawide or unit specific basis. This plan will include but not be limited to a comparison of hunter success records and animal mortality counts before, during and after timber harvesting; evaluation of effectiveness of "leave" areas and the susceptability of leave to blowdown; and a comparison of animal use of clearcut units of various sizes, shapes, aspects, slopes and geographic locations.

Visual

Four clearcut units were designed at Finger Creek for the purpose of studying the relationship between blowdown potential and unit design. These units will be observed periodically over the six-year period following harvest to monitor blowdown.

Monitoring plans will be prepared for all proposed landscape alterations. Monitoring should include site inspection of proposed layouts at periodic stages of development, and the preparation of evaluation reports. The reports will indicate whether or not Adopted Visual Quality Objectives have been met and will indicate rehabilitation measures to be taken if they have not been met.

Silvicultural

Surveys of cutover areas, three to four years after harvest, will determine whether or not natural regeneration is occurring. From past experience, 90 percent of cutover units in the ALP sale area reproduce naturally. In most cases, the remaining 10 percent problem areas can be predicted before logging and are usually associated with valley flats and alluvial fans that have youthful soils. Salmonberry and devil's club which are already present also inhibit tree regenration in these areas. In addition to youthful soils, high elevation harvest areas, eq. near Kennel Creek, could be problems, as could the edges of snowslides.

The following monitoring and post-harvest management will take place on 1981-86 ALP areas:

1. Within four years of logging, reproduction surveys will be made of every logged unit to determine natural regeneration success and need for planting and other silvicultural activities to establish a new stand.
2. If found necessary, planting and/or release will be done in these units.
3. Seeds will be collected from suitable areas near these planting projects to use for growing seedlings at the Petersburg nursery.
4. If post-logged surveys reveal infestation, units will be treated to control the spread of Dwarf Mistletoe. This is accomplished by cutting the small infected hemlock residuals left after logging in order to prevent infection of new growth.

Log Accountability

The transportation of logs from the woods to the mill is a complex procedure utilizing trucks, rafts, barges, and log tows through sometimes rough seas adjacent to environmentally sensitive areas. Rafted logs are sometimes stored for over a year before going to a mill. As log values increase, it becomes imperative that additional measures be taken to protect those values by improving the accountability for the rafts and the log bundles they contain. Not only is it important to insure that the Government receives the full value for all logs removed from the area, but equally important that the resource value of those logs be realized to support local manufacturing facilities. To achieve this end, double-end branding, painting, use of colored banding, and scaling of the logs within one year after being placed in the water may be required. Such a requirement would necessitate contract revision.

Recommendations:

Update the timber sale contract to permit the implementation of a revised regionwide log accountability system which permits the tracking of Forest Service logs from the woods to the mill.

Implementation of Timber Harvest Activities

Except on Kuiu, many decisions made in developing the preferred alternative are based on interpretations made from aerial photos. Therefore, on-ground verification and monitoring is needed. The on-ground verification process has not been completed and, hence some changes will be necessary. The IDT process will continue throughout the harvest period. This will improve economics, timber harvesting and environmental protection.

Because of the time delay between the planning process and the final ground implementation, a safeguard system has been developed to ensure that the recommendations of the planning team are implemented and that potential problem areas that have been identified are reviewed.

Field management forms are prepared for every harvest unit and include adjacent road sections outlined in the preferred alternative. Each unit is evaluated by every resource specialist. Those needing additional review and the reason for review is noted on the forms. Each unit will be reviewed by specified specialists before logging begins. These forms are available on file at the Chatham and Stikine USFS offices (sample included in Appendix).

The field management forms also serve as a record for monitoring management practices. The land managers will continuously review harvest impacts as the plan is implemented. As unanticipated or unacceptable impacts are observed, the appropriate resource specialist or specialists will be notified and the probable cause identified. The best management practices will be modified as needed. In addition, resource specialists are continuously reviewing harvest areas as the plan is implemented. Areas are evaluated for compliance with existing laws and regulations relating to the management of their resource. In some cases, the precision and reliability will be very high (ie. with water quality monitoring) in other cases, (ie. with some wildlife habitat) it will be more judgmental. In all cases, where impacts are identified, necessary changes are recommended and immediately made to the Forest Supervisor in the form of written reports.

An additional monitoring requirement is identified in the Southeast Alaska Area Guide, page 100.

> "The use of existing log storage and transfer sites not complying with the policies outlined in the Guide will be phased out. Termination of site use will coincide with current contract expiration or, in the case of long-term sales, at the beginning of the next subsequent five-year rate redetermination period. Alternative sites will be provided in accordance with the Guide."
>
> "Where a non-conforming site and/or facility is considered for use during a subsequent contract or five-year operation period, an IDT study will be made to determine whether adverse impacts of relocating the non-conforming site exceed those resulting from continued use of the existing site. If the adverse impact of relocating a needed facility is judged to exceed that occurring at its present location, the facility will be allowed to remain in use unless the study indicates that management goals will not be met. In such cases, no further use of the facility will be allowed and an alterrative site will be provided in accordance with Guide procedures."

The review of log storage and log transfer sites for the 1981-86 operating period will be conducted by a team involving USDA Forest Service, Alaska Lumber and Pulp Company, Alaska Department of Fish and Game, U.S. Fish and Wildlife Service, National Marine Fisheries Service, and others. The review team will make recommendations to the agencies responsible for regulating log storage and log transfer activities.

IV. Consultation with Others

IV. CONSULTATION WITH OTHERS

PUBLIC INVOLVEMENT PLAN

Beginning with initial planning activities, the interdisciplinary team has sought the involvement of individuals and groups outside the Forest Service. Such participation by representatives of other government agencies, by members of interest groups and organizations, by elected officials of communities, and by individuals is considered a vital element in the land management planning process.

The study plan guiding the 1981-86 planning process includes a detailed public involvement plan. This plan was prepared to assure compliance with legislation and policy which directs public input to the land planning process, and to meet specific informational needs of the 1981-86 study. The plan details activities to meet the following objectives:

1. Inform the public of the planning process.

2. Involve the public by providing specific opportunities during each planning phase for review and comment.

3. Provide means to expand and/or refine public involvement activities to include all interested groups and individuals and to address issues of major concern.

4. Provide mechanism to incorporate public comments in the planning/decision process and to document responsiveness of the planning team to these comments.

In developing the public involvement plan, the team recognized two important issues to be resolved. First, the timing of past public involvement has been perceived by various groups and individuals to be either too early or too late in the planning process. When too early, information exchanged is tentative and incomplete; when too late, the opportunity to influence decisions is lost. The team resolved this issue by developing a public involvement plan which initiated early contacts but which provided continuing opportunity to update, expand, or correct comments.

The second issue relates to the multiple planning activities in the region over the past few years. Many groups, communities, and individuals have participated extensively in developing such documents and plans as the Southeast Alaska Area Guide, the 1976-81 ALP Operating Plan, the Tongass Land Management Plan, the RARE II study, and others. These participants can reasonably expect that their views and concerns are "on record" with the agency. At the same time, decisions reached through these various planning activities resolved some concerns, creating a new "decision environment" for the 1981-86 study. The team resolved this issue by developing a public involvement plan which initially incorporated public comments from earlier planning activities and then tested to validate or correct the existing "record".

The planning schedule and a summary of public involvement activities is displayed on the following pages.

INFORM AND INVOLVE ACTIVITIES

During the past two years the planning team has completed the five major phases of the planning process: (1) initial planning, such as identification of issues and management opportunities; (2) collection and analysis of resource data; and (3) development of alternatives to be presented in the draft environmental statement; (4) presentation and public review of the draft environmental statement; (5) preparation of the final environmental statement. Activities to inform and involve groups outside the Forest Service have accompanied each of these planning phases, as follows:

Community Contacts

Initial Planning--Public involvement associated with initial planning activities was to identify interested publics, issues and major concerns, and areas where user conflicts might occur. Because of on-going public involvement activities for the Tongass Land Management Plan and RARE II, early phases of the 1981-86 effort were coordinated with these processes, including an analysis of public comments on all major planning projects conducted by the agency during the past years.

To validate and expand on this early public involvement record, two meetings were held in Tenakee Springs, on March 27 and April 17, 1978. The community identified a small group, representative of the City Council, Planning and Zoning Commission, and others, to work with the 1981-86 team. This early contact with Tenakee Springs reflects IDT awareness of this community's extensive involvement in the 1976-81 planning process and its on-going concern with all Forest management activities in Tenakee Inlet.

Data Collection--Public involvement associated with this planning phase was to obtain local assistance in identifying resource values and to review known values in study areas. For these purposes, public meetings were held in Tenakee Springs, July 13; Hoonah, July 25; Mt. Bether community, July 25 and August 19; Port Alexander, July 14. A number of individual contacts with residents of communities throughout southeast Alaska were made at the same time by resource specialists; these contacts are documented in the project planning files.

Toward the conclusion of the 1978 field season, effort was made to include residents of Tenakee Springs and Angoon in field studies. No representative of Tenakee Springs was able to accompany the team on a field trip; however, two individuals from Angoon accompanied the IDT and the Forest Supervisor during inventory study of Kelp Bay in October.

Analysis of Data and Formulation of Alternatives--Public contacts associated with this planning phase were for purposes of expanding resource data, obtaining comment on proposed harvest areas, and reviewing issues of major concern to regional communities prior to formulating alternatives. For these purposes, the team met with residents and elected officials in a number of communities, including: Tenakee Springs, December 4, 1978, March 19, 1979, and June 19, 1979;

Hoonah, December 4, 1978, January 24, 1979, and February 7, 1979, 1/; Mt. Bether, January 24 and February 7, 1979. In addition, open houses to discuss the project were conducted in Sitka and Petersburg on November 14, 1978, and in Juneau and Wrangell, November 15, 1978.

Public Review of Draft Environmental Statement

Copies of the DEIS were mailed to several hundred individuals, groups, and elected officials. The document included a response form and the accompanying letter from the Forest Supervisor urged written response. News articles in regional papers also announced release of the DEIS. Copies of the document were distributed to all Forest Service offices in Alaska so that individuals not on the distributional mailing list could obtain copies. Copies were also provided to active logging camps.

To obtain further public review, public meetings were held in the following communities during October and November, 1979: Sitka, Hoonah, Juneau, Petersburg, Wrangell, Kake, and Tenakee Springs.

In addition to public meetings, the Planning Team has maintained continuing contacts with the public and various community officials through telephone consultation and individual meetings; periodic news releases to newspapers, radio, and television stations in the region; written "planning updates" and village bulletin board announcements.

Consultation With Other Agencies

Employees of the Alaska Department of Fish and Game, the National Marine Fisheries Service, and the U.S. Fish and Wildlife Service have participated as members of the interdisciplinary teams on both the Chatham and Stikine Areas. In addition, Forest Service resource specialists have maintained close contact with their counterparts in other State and Federal agencies, documenting this consultation in planning records on file.

The State of Alaska Division of Policy Development and Planning (State Clearinghouse) has facilitated further involvement of State agencies in this planning process. Beginning in February, 1978, IDT members met with the State-Federal Coordinator to establish early coordination. Subsequent communications, coordinated through the Clearinghouse, helped to shape early drafts of the environmental statement.

On June 1, copies of the working draft were provided to the State and circulated to the Departments of Commerce and Economic Development; Community and Regional Affairs; Environmental Conservation; Natural Resources; Fish and Game; Transportation and Public Facilities; Division of Policy Development and Planning; and the Office of Coastal Management. Resulting comments, questions, and suggestions were reviewed in a meeting on July 9, attended by representatives of the State, the Forest Service, the Southeast Alaska Conservation Council, and Alaska Lumber and Pulp Company. Results of this preliminary review were used in preparing the draft environmental statement.

Review of the DEIS by the State of Alaska and interested Federal agencies was accomplished through the process established by the Office of Management and Budget A-95 Circular. Agencies informed and involved in the planning process include:

Federal:

- National Marine Fisheries Service
- U.S. Fish and Wildlife Service
- Federal Energy Administration
- Department of HEW, Regional Environmental Office
- U.S. Army Corps of Engineers
- Bureau of Mines

- Advisory Council on Historic Preservation
- Environmental Protection Agency
- Dept. of Housing and Urban Development
- Dept. of the Treasury
- U.S. Coast Guard, Office of Marine Environment
- Federal Highway Administration

State of Alaska:

- Dept. of Commerce and Economic Development
- Dept. of Community and Regional Affairs
- Dept. of Environmental Conservation
- Dept. of Fish and Game
- Dept. of Natural Resources
- Dept. of Transportation and Public Facilities
- University of Alaska
- Division of Policy Planning and Development
- Office of Coastal Management
- Historic Preservation Officer

Individuals responding to the draft environmental statement are identified in the Appendix where all written responses, with Forest Service comments, are reproduced.

Notice of intent to prepare an environmental impact statement was published in the Federal Register and newspapers in Juneau, Sitka, Petersburg, and Wrangell in March.

Consultation With Special Interest Groups and Organizations

Special interest groups and organizations have been provided with planning information and invited to participate. Groups contacted include those with fishing, mining, tourism, timber, sport, and environmental interests. Meetings with representatives of a number of these organizations have occurred on a regular and continuing basis and are documented in the planning files.

Planning information has been provided to Native organizations throughout the State beginning with the Notice of Intent distributed in March 1978. Continuing consultation and joint planning has occurred with Sealaska and the Huna Totem village

---

1/ Negotiation with the Huna Totem Corporation for cooperative development of roads, log transfer facilities, and administrative facilities began April 23, 1979. Numerous meetings between Corporation and Community officials and Forest Service personnel have followed. A record of these negotiations is on file in the Chatham Forest Supervisor's office.

corporation, both of whom have identified selection lands adjacent to proposed harvest areas on northeast Chichagof. Representatives of Goldbelt (Juneau) and Kootznoowoo (Angoon) have also exchanged information and commented on the plan during early phases of the project.

Organizations, communities, and agencies which have been informed of this planning process are identified in the following lists. A number of these groups have actively participated by providing comments and recommendations to the IDT.

Groups and Organizations

Environmental Groups:

- Sierra Club
- National Audubon Society
- Southeast Alaska Conservation Council
- Lynn Canal Conservation Society
- Friends of the Earth
- Alaska Conservation Society
- Tongass Conservation Society
- Friends of Tenakee

Fisheries Groups:

- Northern Southeast Aquaculture Assoc.
- United Fishermen of Alaska
- Alaska Trollers Association
- Southeast Alaska Seine Boat Owners

Industrial Groups:

- Citizens for Management of Alaska Lands
- Alaska Miners' Association
- Sitka Visitor's Bureau
- Alaska Lumber and Pulp
- Alaska Logger's Association
- Glacier Guides, Inc.
- Prewitt Enterprises
- Larrabee Logging
- Clear Creek Logging
- Western Forest Industries Association
- Ketchikan Pulp Company
- Alaska Lumberman's Association
- Alaska Mineral Association
- Mud Bay Logging
- Citie Service Minerals Corporation
- Eagle Air, Inc.
- Channel Flying
- American Mining Congress

PLANNING RESPONSE TO PUBLIC COMMENT

The Interdisciplinary Team recognizes that proposals in the environmental statement do not meet all of the concerns and wishes of those who have participated in the planning process. However, the public involvement process has been successful in identifying a great many of the publics interested in this plan and has provided the team with considerable information. The result is an operating plan which attempts to address many of these expressed concerns and which is expected to satisfy a number of the management recommendations presented to the interdisciplinary team by the public.

The full record of meetings, correspondence, and other expressions of interest in the project is available in planning files for review.

Below are some of the highlights which illustrate responses of the planning process to public comment.

Community Concerns

The 1981-86 operating plan affects communities with diverse lifestyles and specific concerns. To the greatest degree possible, the team attempted to develop a proposal which would be consistent with these lifestyles and responsive to these concerns. Proposals on northeast Chichagof Island, for example, reflect the urging of Hoonah and Mt. Bether residents that a road system and sustained harvest be developed. Recommendations for harvest in this area allow for enough remaining volume to establish an even flow of timber, with resulting sustained economic and community stability for 10-15 years.

The community of Tenakee Springs, while expressing strong concern that isolation and subsistence opportunities be protected, advised the Team that enough timber harvest should be provided to maintain the Corner Bay Camp operation. The community also requested that no additional camps be located in the inlet, that no road connection into the community be developed, that logging in the upper inlet be restricted, and that water storage of logs in Tenakee Inlet bays be limited. This direction is met by the Preferred Alternative.

Communities such as Sitka and Wrangell, with primary concern that mills remain operational and employment sustained, are also served by the proposal.

Economic Concerns

The 1981-86 ALP operating plan is the first major development-oriented project to be undertaken since completion of the Tongass Land Management Plan. This Forest plan specifies both environmental protection of resources and a level of timber harvest necessary to sustain current employment in the region. The 1981-86 harvest proposals presented in this document reflect these dual directions (which resulted from extensive public involvement in the TLMP process) by recognizing that management of LUD III and LUD IV areas is the key factor in meeting the economic needs of the region.

Environmental Concerns

The interdisciplinary team has completed an extensive process of identifying multiple resource values and protective requirements in the areas being considered for timber harvest. This process incorporated TLMP data, field inventory, and public input. During the course of resource investigation, the team recognized that, while allocation has been completed with TLMP, many areas of sensitivity remain available for timber harvest or other developmental activities. Special interest groups, as well as other agencies, have provided much useful information in identifying these sensitive areas. Revisions to the plan, as reflected in this final environmental statement, were made to address public concerns and to provide additional protection of sensitive areas. This includes deferral of harvest in a number of watersheds and reduced harvest through deferral of units or partial units in sensitive areas. These revisions were made to meet high standards of protection for fish, wildlife, and visual resources. Additional resource protection is provided through recommended skyline logging systems, streamside buffer strips, and development of road systems and unit layouts which maximize environmental protection. Participation of specialists during implementation of the plan is specified to insure that intended resource protection is provided in the field.

PUBLIC INVOLVEMENT IN
PLANNING PROCESS
1981-86 ENVIRONMENTAL STUDY

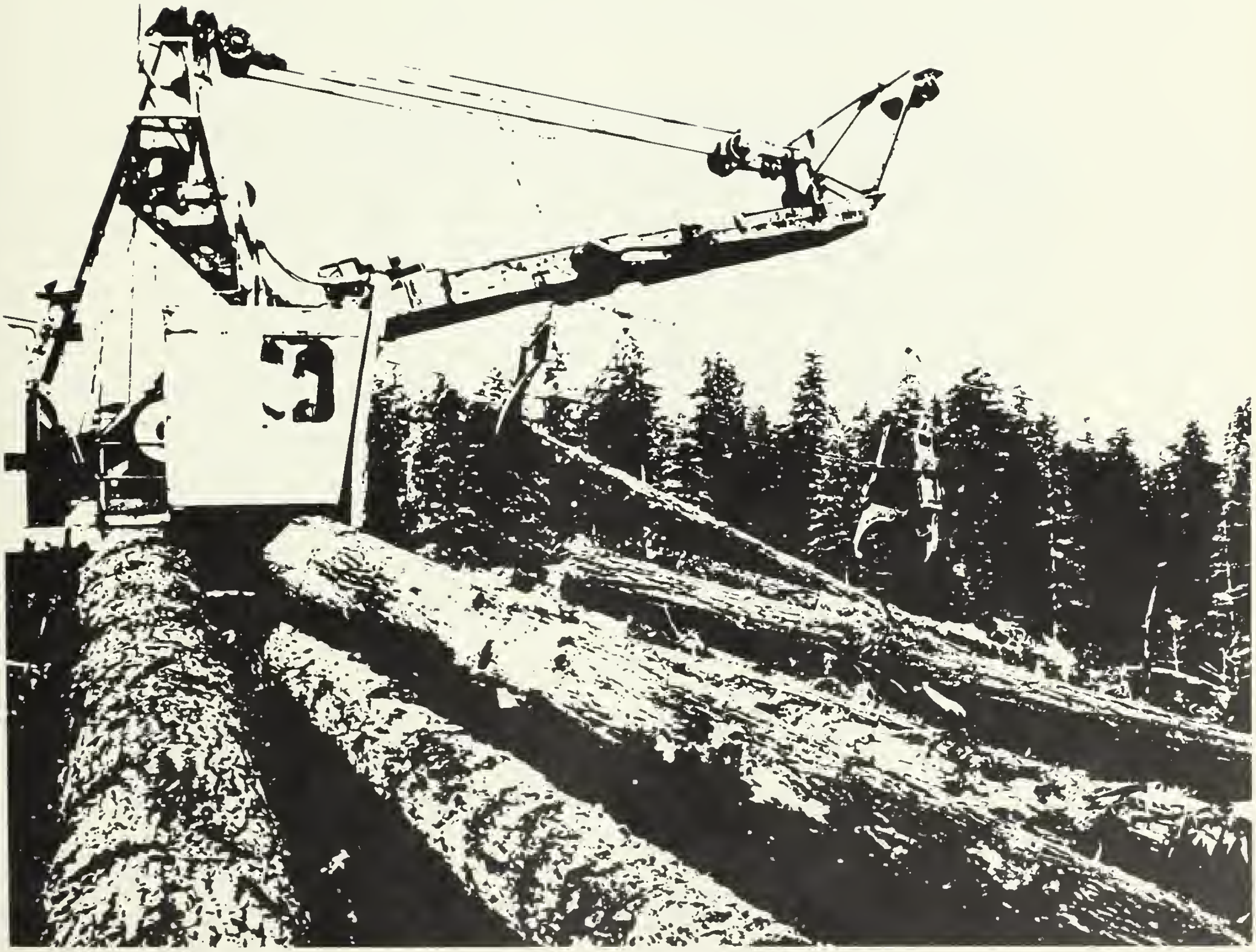
PLANNING STEP	DATE	OBJECTIVE	PUBLIC INVOLVEMENT
A. Initial Planning	Jan-April 1978	Develop public involvement plan. Identification of issues, concerns, management opportunities, and publics. Identify criteria for data collection and analysis; for development of alternatives; for selection of preferred plan of operations. Present to public. Determine what information is needed by the public and how they can best be involved.	Meetings with key contacts, community officials, and special interest group representatives.
B. Collect and Analyze Data	April - Sept. 1978	Advise public of planning process, schedule and IDT function. Obtain data input concerning resource values, established uses, issues and concerns. Advise public of potential cutting areas.	Mailing of planning update to interested publics. Community meetings and Open Houses. Key contact IDT field briefings.
	Oct. - Nov. 1978	Assess Management situation as developed in the Tongass Land Management Plan. Integrate preliminary planning, resource inventories, and public input. Test with public.	

continued......

continued......

PLANNING STEP	DATE	OBJECTIVE	PUBLIC INVOLVEMENT
C. Alternatives	Dec. 1978 - March 1979	Formulate alternatives, analyze implementation effects, select the preferred alternative. Test ability of alternatives to address issues. Obtain public recommendations.	Key contact meetings. Mailing of planning update to all interested publics.
	April 2 - July	Prepare an internal review draft EIS. Obtain comments from Area, Regional and Washington office staffs; State of Alaska; special interest groups; and key community contacts.	
	Sept.	File draft EIS with Environmental Protection Agency and release to the public.	Community open houses and meetings. Key contact briefings. Mailing of documents with request for comments.
	June - Nov.	Obtain public review and computer analysis of draft EIS.	
D. Decision	March 1980	Prepare an internal review Final EIS for comments by Area, Regional, and Washington offices; State of Alaska; special interest groups; and key community contacts.	Distribution of Final EIS to the public.
	April 1980	File Final Environmental Impact Statement with the Environmental Protection Agency and release to the public.	

V. Appendix



TLMP Direction for Management

The ALP 1981-86 operating plan is based on the land use pattern and management direction established by the Tongass Land Management Plan, published in March, 1979, by the Alaska Region, U.S. Forest Service. The following examples of TLMP management area direction are taken from part two of the TLMP document, which may be obtained at any Forest Service office in Southeast Alaska. In the following examples, "MIH" refers to Management Information Handbook "VCU" refers to Value Comparison Unit, which generally corresponds to an area of the Tongass that has a common drainage system. "LUD" refers to one of four land use designations defined in the plan. "PAOT" means persons at one time.

Management Area	C36
Management Area Name	KADASHAN

VCUs	235.0
LUDs	3

	NFS ACRES	CFL ACRES
Operable CFL	---------	12,084
High visual sensitivity	1,740	1,740
Medium visual sensitivity	1,160	1,160
Beach fringe through 500 feet	2,997	1,547
Special/unique areas	0	0
Bald Eagle nesting areas	97	97
Total Acres	33,641	17,787

Management Direction/Emphasis

Major activity emphasis in the future will be timber harvest and road access construction. A road may be built through the upper drainage during the ALP 76-81 and 81-86 operating periods to access timber in other management areas and to utilize the logging camp at Corner Bay. Connecting the Sitkoh Bay - False Island road systems with the Corner Bay system would facilitate future resource management needs. Timber may be harvested from the area in the ALP 81-86 period in connection with the road development and in the ALP 86-91 period. Recognizing concerns expressed by various communities, Alaska Department of Fish and Game, and others, timber harvest and related road location and construction will be carried out in accordance with the following general guidelines and procedure: 1. No roads or timber harvest will be allowed within 1/8 mile of the estuarine tide flat of Kadashan Bay. 2. No roads or bridges will be allowed along or across the Kadashan River in the lower one mile upstream from the general line where the grass flats meet the timber. 3. No timber harvest or roading will be allowed within 1/8 mile of either riverbank along this lower one mile reach of the Kadashan River. These guidelines will be provided to an interdisciplinary team who will conduct a field inventory and analysis before a final recommendation is implemented. Upstream from these zones resource protection measures as described in the Chatham Area project guidelines for wildlife, sec. 1110, alluvial area, sec. 1120, stream and shorelines encroachment, sec. 1130, and stream crossings, sec. 1140, and those resource protection measures applicable as written in the Southeast Alaska Area Guide, will be strictly adhered to. The three cabins which are the Forestry Sciences Lab., the Chatham administrative, and the ADF&G will be permitted to remain with maintenance as required. An additional cabin may be constructed in the upper Hook Creek drainage to accommodate a four person field crew involved in NPS pollution monitoring.

MIH Code	Activity	Management Activities Units of Measure	VCU	--Plan Period-- 1	2	Future	Remarks
A05	Recreation or VIS construction	PAOT	235.0	Y			Hook Creek Cabin construction
C04	Road construction	Miles	235.0	Y	Y		
TSP	Timber sale project (E06,K05,L04)	---	235.0	Y	Y	Y	ALP 86-91

Management Area Number S09
Management Area Name EAST KUIU

VCUs 416.0 417.0 418.0 419.0 420.0
LUDs 4

	NFS ACRES	CFL ACRES
Operable CFL	---------	28,151
High visual sensitivity	24,008	19,838
Medium visual sensitivity	33,808	19,143
Beach fringe through 500 feet	8,829	8,829
Special/unique areas	0	0
Bald eagle nesting areas	13,027	12,877
Total Acres	94,689	56,143

Management Direction/Emphasis

Management Area is in the ALP contingency area and is one of the principle land bases for timber production proposed for the 1981-86 and 86-91 operating plan periods. With management unit 04 the area will, over the long term, be managed to support a substantial portion of ALP wood requirements. It is anticipated much of the area will be accessible by road from Rowan Bay and that one or more additional log transfer sites will be required for the efficiency of the sale-as-a-whole. Multiple use management of the area resources will be enhanced by this road system. Approximately 50 MMbf of timber will be removed each year throughout the island for the next 10 years. Management emphasis on second growth stands will increase following 1990.

No Name Bay, Seclusion Harbor, Port Camden, and Threemile Arm have higher existing and potential recreation use and Port Camden has higher recreation and wildlife values than other VCUs in the Management Area. Project planning in these areas will provide greater latitude for the protection of dispersed recreation and fish and wildlife values. As a high priority enhancement project, Slippery Creek with Camden Lake will be evaluated in 1979 and 1980.

MIH Code	Activity	Management Activities Units of Measure	VCU	--Plan Period-- 1	2	Future	Remarks
A05	Recreation or VIS Construction	PAOT	All		Y		As determined by demand
C05	Habitat Improvement-Wildlife	Acre Eqv.	All		Y	Y	Deer range mitigation
C05	Habitat Improvement-Fish	Acre Eqv.	416.0		Y		Str. No. 105-31-19
C05	Habitat Improvement-Fish	Acre Eqv.	417.0		Y		Str. no. 105-31-18 as eval.
C05	Habitat Improvement-Fish	Acre Eqv.	418.0		Y		Str. No. 105-32-30 as eval. Str. No. 105-32-35 as eval.
C05	Habitat Improvement-Fish	Acre Eqv.	420.0	Y			Str. No. 109-43-03 as eval.
E05	TSI	Acres	All			Y	
F05	Water Resource Improvement	Acres	All	Y	Y	Y	
G01	Mining Law Compliance and Admin.	Claims	All	Y	Y	Y	
L21	Trail Construction	Miles	All		Y	Y	As opportunities and demand warrant
TSP	Timber Sale Project (E06,K05,L04)	----	All	Y	Y	Y	ALP L.T. Timber Sale

Interdisciplinary Team Membership

Two interdisciplinary teams, based on the Chatham and Stikine Areas, have conducted the environmental study for the 1981-86 ALP operating plan. Close coordination between team leaders and specialists on each team, along with regular meetings of the two full interdisciplinary teams, has assured planning consistency.

On each administrative area, the interdisciplinary teams are organized with a small "core team" to coordinate the planning and a larger "support team," composed of multi-discipline specialists. Employees of other agencies and Alaska Lumber and Pulp Company are included as support team members. Team membership is as follows:

CHATHAM AREA

Core Team
Calvin Bird, Forester (Team Leader, 1978-1979)
  B.S. Forest Management, 7 years experience
Fred Glenn, Soil Scientist (Team Leader 1979-80)
  Ph.D Soil Physics, 4 years experience
Elaine Sunde, Public Information Officer
  MA English, 3 years experience
Bill Niles, Civil Engineer
  B.S. Forest Engineering, 9 years experience
Ken Thompson, Fisheries Biologist
  B.S. Fish and Wildlife Management, 15 years experience
Lutz, Evans, Forester
  B.S. 23 years experience

Support Team
Ted Allio, Civil Engineering Technician
  12 years experience
Don Breitinger, Forester
  B.S. Forestry, 7 years experience
Stan Davis, Archeologist
  M.S. Archeology, 3 years experience
Darrel Tracy, Landscape Architect
  M.L.A. Landscape Architect, 3 years experience
O.H. Duffle, Forestry Technician
  22 years experience
Larry Tripp, Soils Scientist
  M.S. Soil Sciences, 1 year experience
Bob Fish, Forester
  M.S. Forest Management, 17 years experience
Dennis VanHorn, Wildlife Biologist
  M.S. Biology/Zoology, 6 years experience
Don Fisher, Landscape Architect
  B.L.Aa Landscape Architecture, 3 years experience
Bob Vaught, Fisheries Biologist
  B.S. Fisheries Biology, 3 years experience
Ron Welsh, Forester
  B.S. Forestry, 23 years experience
Matt Longenbaugh, Fisheries Biologist
  M.S. Marine Resources, 2 years experience
Don Williamson, Wildlife Biologist
  B.S. Wildlife Biology, B.A. Psychology,
  1 year experience as Fisheries Biologist
  2 years experience as Wildlife Biologist
John Stednick, Hydrologist
  Ph.D. Forest Hydrology, 3 years experience
Ken Walsh, Hydrologist

  B.A. Meteorology, 13 years experience
Bruce Barrett, Civil Engineering Technician
  A.S. Engineering, 8 years experience
Bob Smith, Silviculturist
  B.S. Forestry, 15 years experience

Support Team (Non-Forest Service)
Bill Hughes, Biologist, U.S. Fish and Wildlife Service
  M.S. Oceanography, 9 years experience

Bill Hughes, Biologist, U.S. Fish and Wildlife Service
  M.S. Oceanography, 9 years experience
Loyal Johnson, Area Game Biologist, Alaska
  Department of Fish and Game, M.S. Wildlife
  Management, 15 years experience
Ed Merrell, Fisheries Biologist, National
  Marine Fisheries Service, B.S. Wildlife,
  M.S. Fisheries, 2 years experience
Leo Evans, Logging Engineer, Alaska Lumber
  and Pulp Co., B.S. Forest Management, 17
  years experience.

STIKINE AREA

Core Team
Dave Riemer, Landscape Architect
  B.A. Landscape Architecture, 13 years experience
Bob Gerdes, Forester
  B.S. Forestry, 14 years experience
Everett Kissinger, Soils Scientist
  B.S. Soil Sciences, 12 years experience
E.L. (Butch) Young, Wildlife Biologist
  B.S. Wildlife Management, 14 years experience
Mark Voight, Fisheries Biologist,
  B.S. Fish and Wildlife Management, 5 years experience

Support Team

Jim Franzel, Fish Biologist
  B.S. Fisheries Sciences, 4 years experience
Jim Wilson, Forester
  B.S. Forest Management, 15 years experience
Norm Covington, Public Information Officer
  14 years experience
Gene Smith, Civil Engineer
  B.S. Civil Engineering, 5 years exp.
Jim Schramek, Hydrologist
  M.S. Forest Hydrology, 4 years experience
Katherine Arndt, Archeologist
  M.A. Anthropology, 3 years experience
Dennis Murphy, Forester
  B.S. Forest Management and Statistics, 11 years
  experience

Support Team (Non-Forest Service)
John Edgington, Land Use Project Leader,
  Alaska Department of Fish and Game,
  M.S. Fisheries Science, 8 years experience
Mark Horton, Ecological Services Officer
  U.S. Fish and Wildlife Service,
  B.S. Wildlife Science, 6 years experience

BASIS OF EVALUATION: REGULATIONS AND INVENTORY METHODS

Soils

Regulations and Guidelines--National and departmental directives call for protection of the soil resource and development of guidelines for mitigating both direct and indirect soil impacts. Timber harvest on National Forest land is to be considered only where:

1. Soil, slope, or other watershed conditions will not be irreversibly damaged.

2. There is assurance that such lands can be adequately restocked within five years after harvest.

3. Protection is provided for streams, streambanks, shorelines, lakes, wetlands, and other bodies of water from deposits of sediment likely to seriously and adversely affect water condition or fish habitat.

Inventory Methods--A detailed (third order) soil inventory was conducted over most of the study area. Only Gartina Creek (Freshwater Bay Management Area) and Trap Bay (Corner Bay Management Area) remain to be inventoried. These soil inventories will be done in early 1980.

Soil delineations are based on physical soil characteristics vegetative cover, and geomorphic features. Interpretations with regard to timber management, productivity potential, wildlife habitat suitability, road construction capabilities and slope stability have been developed for each soil type.

V-notch dissected and steep slopes within preliminary cutting unit boundaries have received additional field evaluation. Studies of slope stability and susceptibility of these slopes to harvest damage have been conducted over much of the area.

Water Resources

Regulations and Guidelines--In 1972, Congress passed amendments to the Federal Water Pollution Control Act (PL 92-500). This law authorizes the State to establish water quality standards and pollutant discharge limitations applicable to all waters of the State. These standards were established in October, 1973. Authority was also given to prevent, control, and abate nonpoint source pollution through enforcement of these standards.

Non-point source pollution was to be abated by Best Management Practices (BMPs) developed by land management agencies. BMPs are being developed by the Department of Environmental Conservation, the Department of Natural Resources, and the USDA Forest Service. The Forest Service is developing BMPs from quantitative data obtained by monitoring current forest land management activities. BMPs are presently documented by the Forest Service in the Southeast Alaska Area Guide and the Chatham Area Project Guidelines.

Proposed water quality standards by the State of Alaska, Department of Environmental Conservation do not reflect natural variability or water sampling difficulties. Employment of BMPs has resulted in water quality violations by present standards, a situation that has not been legally analyzed. Water from undisturbed watersheds has also exhibited occasional violations of these water quality standards.

Inventory Methods--In compliance with the National Forest Management Act, third level inventories were completed prior to planning. Inventory results are available from the Chatham Area Watershed Program. Inventories for Trap Bay, Kadashan, and Gartina Creek (Freshwater Bay Management Area) will be completed.

Air Quality

Guidelines and Regulations--Environmental Protection Agency standards include primary standards for public health and secondary standards for the general welfare. The State of Alaska has adopted the secondary, or Ambient Air Standards, which are the more rigorous air quality requirements. These standards require monitoring of particulate matter and sulphur dioxide pollutants in the ambient air.

Data Collection--A monitoring station has been operated at Thimbleberry Bay, located approximately two miles from the Alaska Lumber and Pulp Mill in Sitka. Data collected is available through the State of Alaska Department of Environmental Conservation over the past five years.

Silviculture

Guidelines and Regulations--Silvicultural systems are regulated according to national resource management guidelines. These laws and agency regulations require that timber operations on National Forest land be conducted so as to give all resources necessary consideration and protection.

Inventory Methods--Overall timber volume and composition of the timber resource on the Tongass National Forest has been inventoried in recent years. The TLMP process established timber volume and operability. The Forest has also been species and volume typed into strata on aerial photos, with results mapped. Stand examinations give additionally detailed information on available volume in specific areas and provide some stand environmental data. The most specific knowledge of volume will be obtained when the proposed harvest area is cruised in late 1979.

However, timber management requires more information than volume data. Species characteristics and environmental effects on growth must also be considered. This information is provided on a continuing basis, through studies by both private and government researchers such as the Forest Sciences Laboratory which is a research branch of the USDA Forest Service.

Wildlife

Guidelines and Regulations--Management of the fish and wildlife resource on the Tongass National Forest is conducted cooperatively with the State of Alaska and other Federal agencies under direction of National legislation, Departmental policy, and State regulations. These guidelines and regulations provide the following objectives to the Management program:

*Develop and maintain, in cooperation with the States and in harmony with the natural environment and with other uses of the land, a pattern of wildlife and habitats on the National Forest System Lands that will best meet the needs of wildlife, fish, and people now and in the future.

*Give special attention to the environmental needs of threatened and endangered wildlife and fish species, and to those species which are dependent upon National Forest System Lands for the greater part of their range.

To accomplish these objectives, agreements in the form of Memorandums of Understanding have been reached with the State and other Federal agencies. Included is an agreement with the Fish and Wildlife Service (USDI) to maintain eagle populations at current levels and to protect known eagle nesting sites from destruction and undue disturbance.

The Endangered Species Act of 1973 (P.L. 93-205) is the basis for Departmental and agency policy which provides full protection for all fish, wildlife, and plant species classified as threatened or endangered for this area.

Inventory and Data Collection--Four methods were used to gather information on wildlife habitat. These were:

*Use of TLMP data, including wildlife rating forms and computer compilations of information. This source provided VCU information concerning wildlife value, current human use patterns, special or unique areas, and percent and acreage of wildlife habitat within each land unit.

*Examination of Alaska Department of Fish and Game hunter harvest data. This source does not provide VCU data, but applies to larger subunits within a Management Area, eg. Freshwater Bay.

*Examination of aerial photographs. This method was used to identify potential critical wildlife habitat.

*Examination on the ground of areas proposed for cutting units, road location, camps, or log transfer sites. Field investigation was limited on some management areas to those areas where activities were proposed, with priority given to areas where resource conflicts were suspected.

Each of these data collection methods has limitations and may be corrected with further site investigation. In addition, several areas were deleted and other areas added (Kadashan, Trap Bay, Gartina, Lower Game Creek, and Seal Creek) after the conclusion of the 1978 field season. These areas will be field surveyed early in the 1980 season.

Inventories to identify potential habitat enhancement projects have not been conducted in all management areas.

Fish

Regulations and Guidelines--Management of the fishery resource is directed by Federal legislation and departmental regulations as described in the introduction to Section III. In addition, agency agreements and legislative direction discussed for management of the wildlife resource are observed in fishery management programs wherever applicable.

Inventory Methods--Forest Service fisheries biologists have been closely involved in the planning process to develop the ALP 1981-86 operating plan. Stream habitat surveys conducted during 1976-78 and aerial photos were used to help locate and design cutting units. Alternative plans were developed to meet constaints of the decision criteria. Fisheries resource trade-offs were made on all Chatham alternatives, due to economic considerations and contractual requirements. Alternative III represents the least risk of adverse impacts on fisheries resources on the Chatham Area.

The Chatham and Stikine Areas are involved in various programs which enhance fish habitat.

Visual and Recreation Resources

Guidelines and Regulations--The Forest Service visual and recreational management program is outlined in USDA Agriculture Handbook No. 462, Volume Two, Chapter One - The Visual Management System; and Forest Service Manual 2380. This program establishes the visual landscape and recreational opportunities as basic forest resources.

The following criteria has been set up for management of the visual resource:

Viewer sensitivity levels are determined for land areas viewed by those who are traveling through the forest by air, waterways, roads, and trails; are using facilities such as campgrounds, visitor centers, public cabins, picnic grounds, winter sports areas, and resorts; or are otherwise concentrating use and recreation at lakes, streams, and other water bodies. High sensitivity levels are associated with areas of national importance and high public use, e.g. ferry routes, tour ship routes, high volume recreational waterways, anchorages, camping areas, and permanent communities. Lower sensitivity levels are identified with areas lacking national prominence or receiving limited use by recreationists.

Landscape variety classes reflect natural scenic qualities. Distinctive landscape variety ratings are generally applied to those areas with outstanding or unusual visual quality. Conversely, landscapes with little diversity in landform, vegetative patterns, waterforms, or rock formations are given lower variety class rating.

Visual Quality Objectives (VQOs) are a set of measurable goals for the management of forest visual resources. VQOs are based upon an evaluation of viewer sensitivity levels and landscape variety classifications, and describe the different degrees of acceptable alteration of the natural landscape. Inventoried Visual Quality Objectives result from an anlaysis of variety, sensitivity, and viewing distance. During the Interdisciplinary Team Land Management process, the inventoried visual quality objectives are often modified bv other resource considerations. Adopted Visual Quality Objectives are the final objectives describing the visual quality resource goals for a particular land management alternative. The Adopted Visual Quality Objectives associated with a selected land management plan are a "contract" between the land manager and the public until the plan is next amended or revised. Visual Quality Objectives are identified as follows:

Preservation: Management activities, except for low visual-impact recreational facilities, are prohibited.

Retention: Management activities are allowed if not visually evident. Changes to the landscape must mimic natural characteristics.

Partial Retention: Management activities that are visually subordinate to the natural landscape are allowed.

Modification: Management activities may visually dominate the natural landscape but must appear as natural occurrences when viewed as foreground and middleground.

Maximum Modification: Management activities may dominate the natural landscape but must appear as natural occurrences when viewed as background.

Unacceptable Modification: Management activities should not be permitted, regardless of the distance from when the activity might be observed.

Research Methods: Several methods were used to establish recommended Visual Quality Objectives. Landscape variety classifications were inventoried through on-the-ground survey, aerial photograph analysis, and flight reconnaissance. Existing recreational use was determined from analysis of recorded recreation visitor days, and verification of small boat, ferry, and tour ship routes. Potential use areas were determined through flight reconnaissance and on-the-ground analysis. Areas seen by forest visitors were determined by manual topographic analysis and, in some areas, radar mapping. Data furnished by the Tongass Land Management Plan was reviewed and coordinated with written inventories supplied by residents of Elfin Cove, Hoonah, Tenakee Springs, and by members of the Sitka Conservation Society. The coordinated data was used to evaluate the recreational opportunities available within the study areas.

Cultural Resources

Guidelines and Regulations--The National Environmental Policy Act of 1969, the National Historic Preservation Act of 1966, and Executive Order 11593 require that information on cultural resources within impacted areas must be compiled. A general method for gathering data has been suggested. The three stages of the method are: 1) background research and the evaluation of existing data as a means of identifying cultural sites. 2) Reconnaissance survey as a means of testing the general hypotheses reached in the first stage; and 3) intensive inventory of high potential areas which are potentially impacted by proposed management activities. Procedures for the evaluation and protection of all known cultural resources are set forth in 36 CFR 800.

Inventory Methods--Due to the limitations of both existing information and the means of survey available (flight reconnaissance, on-foot survey, and photo analysis), only the first two steps of the suggested method have been carried out on areas proposed for harvest in 1981-86. Information gathered from these stages has been used to establish criteria for conducting future reconnaissance and intensive survey areas as follows:

High Probability (Areas between sea level and 100 feet in elevation): It is believed that all or most of the people who utilized the area in the past were strongly oriented toward the sea, and that their activities were, therefore, concentrated along the coast. Because of sea level changes since the end of the Pleistocene the 100 feet boundary has been established as a means of covering those inland areas which may contain past coastal inhabitation. All inventory to date has been done in this category.

Moderate Probability (Areas between 100 and 1,000 feet in elevation with slopes of less than 50 percent): Although people who were oriented toward the sea would have lived and worked along the coast, they may have made trips to island interiors to hunt and to gather raw materials. Terrain which slopes less than 50 percent is presumed conducive to sedentary human activity (i.e. temporary camping).

Low Probability (Areas between 100 to 1,000 feet in elevation with slopes of greater than 50 percent, and all areas above 1,000 feet in elevation): It is assumed that such areas are least likely to have supported human activity.

Socioeconomic Considerations

Guidelines and Regulations--USDA Secretary's Memorandum No. 1827, Revised (October 30, 1978) specifically establishes social and economic considerations as a function of land use policy:

> This memorandum establishes a departmental policy to promote attainment of land use objectives that are responsive to the needs of the people. This policy is supportive of the constitutional responsibilities of State and local governments for making and implementing public policy' regarding land use. This policy is

supportive of the constitutional responsibilities of State and local governments for making and implementing public policy regarding land use. This policy is designed to contribute to improved social and economic well-being and to protect the quality of the environment. In formulating and implementing this policy, it is the intent of the Department to (a) assist local and State governments and individual landholders in defining and meeting needs for growth and development; (b) protect the natural environment; and (c) assure adequate supplies of high quality food, fiber, wood, and water.

Data Collection--Information by which to assess the social and economic effects of proposals for the 1981-86 operating period has been gathered as follows:

* Evaluation of social and economic data assembled during earlier planning activities, including the 1976-81 ALP Environmental Impact Statement and the Tongass Land Management Plan, with attendant socioeconomic working reports. (This information to be updated early in the 1981-86 period for Tenakee Springs.)

* Review of draft alternatives by the USDA Forest Service Region 10 economist and incorporation of this review into the draft environmental impact statement analysis of social and economic effects.

* Extensive public involvement in affected communities and with interested and affected special interest groups to assess potential social and economic effects of draft alternatives.

SOCIOECONOMIC ASSESSMENT OF HOONAH

Proposals for logging and related activities on northeast Chichagof represent major impacts and opportunities for the small community of Hoonah. The Forest Service and community leaders recognize that both positive and negative effects may result within the social, economic, and cultural structure of the village as population increases and new employment patterns emerge.

The Interdisciplinary Team, recognizing the need for thorough planning to address these issues, has consulted extensively with the community. Contacts have included--in addition to elected officials--those individuals responsible for social and community services, law enforcement, educational programs, health programs, and others. Prior to developing alternatives, the team held open houses and discussed some of these potential effects with many residents. Meetings and open houses in the community continued after release of the DEIS. To encourage consideration of both negative and positive impacts, an informational response form was distributed. Written responses and ensuing discussion indicated that most residents consider the proposals to represent positive opportunities for the community and view negative effects as tolerable "Tradeoffs."

Nevertheless, the IDT believes that continuing involvement of sociological and economic specialists will be of crucial importance during the remaining planning phases and subsequent implementation of the operating plan. The following expertise has been sought during initial planning and preparation of the DEIS:

* The State of Alaska Department of Community and Regional Affairs was invited to participate actively with the IDT in assessing potential impacts on Hoonah. Limited departmental staffing made it impossible for this agency to prepare a social assessment of the community or to participate to the degree requested. However, a copy of the working draft was reviewed by this department before alternatives were presented in the DEIS. This department also participated in the State of Alaska review of the DEIS.

* Data gathered in Hoonah by the University of Alaska/Institute of Social and Economic Research under contract with the Forest Service (April, 1978) has been consulted in developing proposals.

* The Regional Forest Service Economist has attended public meetings, met with community officials, and advised the IDT on potential economic effects of the plan upon the community. This information was used in developing alternatives.

* The Regional Forest Service Sociologist has reviewed the DEIS and advised the IDT. Through his efforts, sociologists from the University of Washington and the Forest Service Washington Office have visited Hoonah and provided further information to the planning team. This information and additional sociological expertise will be used in final planning and implementation.

* The Forest Service has cooperated and consulted with those assisting the community in planning studies. This includes exchange of information with an economist under contract to the community and Huna Totem Corporation to evaluate opportunities through tourism, timber harvest, energy production, and development of a bottom fishery.

The agency also participated in the October symposium, sponsored by the Tlingit and Haida Central Council in Hoonah. The summary report of this conference follows this assessment of Hoonah.

Following is a preliminary assessment of the community and effects which may result from implementation of the Recommended Action:

Projected employment and total payroll resulting from proposed operations in the Hoonah Area is indicated in Table 27. Both Hoonah and Mt. Bether view this employment potential as highly positive effects of the proposal. In addition to opportunities for timber-related employment from operations on National Forest lands, future timber development by the Huna Totem Corporation on lands selected under the Alaska Native Claims Settlement Act is possible. People moving into the area from outside will stimulate some secondary employment, but most of the impact is likely to be from direct employment due to the current industrial structure of Hoonah. Sales of timber from the Native Corporation lands, much of it as round log exports, will provide investment capital that can stimulate other employment.

It must be recognized that opportunities for local hire are influenced by: (1) the final size and configuration of the Forest Service district Ranger organization proposed for Hoonah; (2) hiring policies of the Hoonah logging camp operator under subcontract to ALP (note that subcontractors are required to meet Federal hiring and labor laws); (3) availability of needed skills in the community.

In order for local residents to benefit from nearby timber harvest activities, they must have suitable skills or training opportunities. Data concerning the number of skilled workers now in the community is being gathered by Tlinqit-Haida Central Labor Council and Huna Totem Corporation.

The Hoonah school system has an enrollment of about 300 students. It is anticipated that an additional 50 students could be absorbed without straining present facilities and faculty. Discussions with the School Superintendent and members of the School Board indicate that increased enrollment would benefit the school by providing job security to teachers and staff and by providing better utilization of existing facilities and equipment.

Additional population in the community would also provide needed tax support to the school system. The potential for expanding vocational training to prepare students for employment opportunities is being pursued by the school and is expected to include such programs as diesel mechanical training. Application by the Hoonah School District for State of Alaska Department of Education funding of a power mechanics component to the Career and Vocational Education Program has been endorsed by the Forest Service. IDT members have met with the Hoonah School Superintendent, School Board Members, and Vocational Education Instructor and will continue to facilitate all efforts to provide local training for potential job opportunities in the Hoonah area.

Provision of housing to accomodate population influx resulting from timber development is being studied. A resident of Hoonah has been hired by the Forest Service to assist and coordinate identification of available housing and administrative facilities. The objective of the agency is to integrate employees into the community, better accomplished by private residences throughout the village than by a "compound" of government housing. It is also recognized that local economic benefits will occur whenever private landowners and investors make facilities available. Some additional dwellings or facilities may need to be provided by the government, depending on the results of current facilities studies and on the number of non-local employees ultimately established in Hoonah.

The City of Hoonah supplies water, sewage disposal and electricity, all at a fee. Discussions with local government officials have indicated that both the sewage disposal system and the electric plant can withstand substantially greater use within their capacities. Options for expanded power capability (wood burners and hydroelectric development) are being studied. The water supply system is a problem. While there is sufficient water available to supply an increased population throughout most of the year, periodic shortages are a concern at the present population level. Any substantial increase in population will quite likely require a larger water supply facility.

For 1975, the average family income for Hoonah's fishermen was approximately $6,000. With the high living expenses typical of Alaska, it is clear that many families must rely on subsistence activities to supplement their cash incomes. This does not suggest that reductions in populations of favored fish and wildlife species will necessarily have a serious effect on the community. However, there are serious implications if fish and wildlife populations fall to a point where the affected people cannot gather sufficient foods to meet their needs. Even with the prospects of increased average family income as new job opportunities occur, careful consideration should be given to the distributional aspects of resource development plans.

With the development of a cultural center and promotional activities, Hoonah may increase its tourist trade. A private consultant under contract to the community is preparing a tourism Development Plan to explore opportunities. The extent to which tourism might increase is constrained by existing lodging facilities; however, the lodge located in Hoonah is currently underutilized. Tourism in southeast Alaska is further constrained by its seasonal nature and limited transportation systems. The potential impacts of timber proposals in the area upon developing tourism and recreation are favorable to the degree that a developed road system increases recreation access. However, harvesting may diminish visual quality and the overall enjoyment of recreational visitors.

SUMMARY
OF
PORT CAMDEN LTS
ECONOMIC AND ENVIRONMENTAL ASSESSMENT
(IDT REPORT OF NOV. 1, 1979)

Situation

The ALP 1981-86 Draft Environmental Impact Statement conditionally proposed a log transfer site in Port Camden, environmentally sensitive area, highly valued by commer-cial fishermen and recreation users. Physical and biological data and economic information were considered insufficient to support a firm proposal at the time the draft statement was released for public review in early September 1979.

During the review period, an interdisciplinary team was formed to study and analyze the environmental effects and economic costs of both a conventional log transfer site and a barging operation at the proposed location. The team was also directed to investigate alternative sites in the immediate vicinity; and to determine if environmental concerns could be mitigated through location

TABLE 27 -- Estimated Employment in Hoonah Attributable to 10-Year Harvest Plan

Year	Direct Private Employment			Direct Public Employment			Total Direct Employment		
	Jobs	Man-Years	Total Payroll ($ thousands)	Jobs	Man-Years	Total Payroll ($ thousands)	Jobs	Man-Years	Total Pay ($ thousa
1979	5	5	$116	31	25	$376	35	30	$492
1980	30	22	$511	31	25	$376	61	47	$887
1981	65	44	$1,022	37	23	$351	92	67	$1,373
1982	65	44	$1,022	35	34	$612	100	78	$1,634
1983	55	37	$859	35	34	$612	90	71	$1,471
1984	55	37	$859	35	34	$612	90	71	$1,471
1985	55	37	$859	41	35	$588	96	72	$1,447
1986	55	37	$859	41	35	$588	96	72	$1,447
1987	55	37	$859	39	35	$613	94	72	$1,472
1988	55	37	$859	35	34	$612	90	71	$1,471
1989	55	37	$859	35	34	$612	90	71	$1,471
1990	55	37	$859	35	34	$612	90	71	$1,471
1991	20	14	$325	35	34	$612	55	48	$937
1992	20	14	$325	27	26	$425	47	40	$750

TABLE 27 -- Estimated Employment in Hoonah Attributable to 10-Year Harvest Plan

Year	Direct Private Employment			Direct Public Employment			Total Direct Employment		
	Jobs	Man-Years	Total Payroll ($ thousands)	Jobs	Man-Years	Total Payroll ($ thousands)	Jobs	Man-Years	Total Payroll ($ thousands)
1979	5	5	$116	31	25	$376	35	30	$492
1980	30	22	$511	31	25	$376	61	47	$887
1981	65	44	$1,022	37	23	$351	92	67	$1,373
1982	65	44	$1,022	35	34	$612	100	78	$1,634
1983	55	37	$859	35	34	$612	90	71	$1,471
1984	55	37	$859	35	34	$612	90	71	$1,471
1985	55	37	$859	41	35	$588	96	72	$1,447
1986	55	37	$859	41	35	$588	96	72	$1,447
1987	55	37	$859	39	35	$613	94	72	$1,472
1988	55	37	$859	35	34	$612	90	71	$1,471
1989	55	37	$859	35	34	$612	90	71	$1,471
1990	55	37	$859	35	34	$612	90	71	$1,471
1991	20	14	$325	35	34	$612	55	48	$937
1992	20	14	$325	27	26	$425	47	40	$750

or design. If the risk of serious environmental impact could not be eliminated, or the sites were considered otherwise unsuitable, options for the delivery of Camdenarea logs to Rowan Bay and No Name Bay would be implemented through the 198186 operating plan.

Actions Taken

The IDT was formed during late summer 1979, but due to individual field work commitments it was midOctober before team members were able to begin an analysis of the proposed log transfer area. The preliminary analysis was conducted using aerial photos and existing resource information. The analysis seemed to confirm earlier assumptions that the proposed site (Site A) would not meet the environmental criteria for LTS selection, as stated in the Tongass Area Guide. However, a second site (Site B) was identified (about onefourth mile west of Site A) which appeared to be much more favorable environmentally.

November 27-30, the IDT conducted an onsite investigation. Accurate bottom profiles and horizontal distances were obtained on two sites: Site A and Site C (new). Accurate depths were also obtained on Site B, but only relative horizontal distances were obtained, due to equipment failure.

Upland investigations were conducted at Sites B and C. Road location control points were investigated and development feasibility verified. The proposed sort yard approach was examined and a determination made that sort and storage activities should be relocated inland along the main haul road.

Conclusions

Based on photo interpretation, field site analysis and information previously gathered, the Port Camden IDT determined that: 1) significant fuel savings and forest resource management benefits could be obtained by developing a log transfer site in Port Camden; and 2) environmental considerations clearly favor the Site B area.

SITE A -- The IDT does not believe a conventional log transfer site can be developed at Site A without violating all major Area Guide criteria for LTS selection. A full barging facility at Site A would be more environmentally acceptable than a conventional LTS, but operational interference with the intertidal area is an unknown factor.

SITE B -- The IDT believes the SiteB area could accommodate a conventional LTS, meeting all Area Guide criteria except the recommendation that log transfer facilities be located near the mouths of bays rather than at the heads of bays, wherever possible. Site B is about half way toward the head of Port Camden, but is not considered by the IDT to be close enough to any intertidal spawning and rearing channels to cause significant interference.

Time constraints, weather conditions, and equipment problems may have prevented the team from pinpointing the best Site B area location. The following physical characteristics were observed, however: Site B has an offshore trough that may serve to trap and concentrate bark if flushing action is low. Causeway fill beyond the trough would add significantly to development costs, assuming the linear measurements taken in the field are accurate. Site B-1 (not specifically investigated) may present a better bottom configuration, as suggested by the profiles, but flushing action is unknown. Site C offers excellent slope and flushing, but presents upland visual problems. Approximately one acre on the point would have to be cleared and blasted to level a site.

IDT Subjective Rating of Alternatives

Conventional Log Transfer Facility

	Site A	Site B	Site C
Engineering Risk	1	5	5
Environmental Impacts	10	3	1
Visual Impacts	1	4	10
Totals	7	10	16

Log Barging Transfer Facility

	Site A	Site B	Site C
Engineering Risk	1	5	5
Environmental Impacts	3	1	1
Visual Impacts	3	4	10
Totals	7	10	16

NOTE: Although combined ratings are equal for Site A and B conventional facilities, the IDT believes the proximity of Site A to one of Port Camden's more valuable estuarine areas makes environmental impact the controlling factor in the IDT recommendation.

IDT RECOMMENDATION

The Port Camden IDT recommends that a conventional log transfer site be developed in Port Camden in the Site-B area, with the exact location to be determined through an inter-agency site survey.

The team further recommends that, because of Port Camden's high biological and aesthetic values, the log transfer site design work be contracted to a qualified architectural and engineering firm.

If a barging alternative is chosen for Port Camden, it should be pointed out that Site A reflects lower overall impacts and lower development costs, but other factors may ultimately control site selection.

NOTE: IDT members representing other concerned agencies did not accompany the team to Port Camden in November and were not present when the current findings and recommendations were made.

Environmental Assessment
DECISION NOTICE

Proposed Port Camden Log Transfer Site
ALP 1981-86 Operating Plan

USDA Forest Service
Stikine Area, Tongass National Forest

In response to management direction stated in the ALP 1981-86 Operating Plan Draft Environmental Impact Statement (Sept. 1979), an interdisciplinary team was assigned to investigate the location alternatives and development feasibility of both a conventional and full-barging log transfer facility in Port Camden, East Kuiu Island. The resulting environmental assessment report is available for review in the Stikine Area Forest Service office, Petersburg, Alaska.

Based on an analysis and evaluation of the Port Camden LTS environmental assessment, and on other data and information developed through the 1981-86 operating plan IDT process, it is the decision of the Stikine Area Forest Supervisor that:

SITE SELECTION AND DEVELOPMENT OF A PORT CAMDEN LOG TRANSFER FACILITY SHALL BE DEFERRED WITH ALL TIMBER VOLUME HARVESTED UNDER THE ALP 1981-86 OPERATING PLAN TRANSPORTED TO THE EXISTING ROWAN BAY LTS AND TO A NEW LTS IN NO NAME BAY.

This decision recognizes that:

* Supporting data are inconclusive in pinpointing the exact best location for a log transfer site in the area investigated.

* The Economics and viability of a total barging operation are not well enough understood at this time to provide a feasible option to conventional facilities and operations.

Although a majority of the Port Camden IDT members concluded tht a conventional log transfer facility could be developed with little adverse environmental impact, there remains a lack of confirmed support by other concerned agencies for a log transfer facility in the area investigated.

* Timber stands on Camden Peninsula exhibit lower volumes per acre than stands in the remainder of the management area. This factor, in combination with other criteria for harvest unit selection (FEIS), gives Camden Peninsula a lower priority for development in the 1981-86 period.

Consequently, by deferring consideration of a Port Camden log transfer site, additional time is provided to investigate alternative areas for the facility, seek agreement with other concerned agencies and the public, and examine road funding options other than timberpurchaser construction.

Glossary

AERIAL HARVEST SYSTEMS
Examples are helicopter and balloon logging.

AGE CLASS DIVERSITY
The amount of age class distribution within a stand. Stands with low age class diversity would be composed of trees approximately the same age. Stands with high age class diversity would contain trees of many ages.

ALEVINS
Newly hatched salmon still attached to the yolk sac.

ALGAL
Of, pertaining to, or composed of algae.

ALLOCATION
Commitment of a given area of land to one or more kinds of management, to provide the public with differing land use opportunities. Allocation constraints limit the consideration of a given land to less than the full set of land management options that are basically suitable for application thereon.

ALLUVIAL
Deep, highly productive soils in valley bottoms, resulting from transportation and deposition from higher slopes by running water.

ALPINE
(See Landtypes)

AMBIENT
Surrounding; on all sides; condition or situation surrounding a point or object on all sides.

ANADROMOUS FISH
These species of fish which mature in the sea, and migrate into streams to spawn. Salmon, steelhead, and shad are examples.

AQUACULTURE
The artificial rearing of aquatic organisms, normally requiring some type of facility and developed program or schedule of activities.

ARTERIAL ROADS
Mainline, primary roads.

ATTITUDE
The relation of some directional feature in a rock to a horizontal plane.

BACKCOUNTRY
Any area where the management objectives stress dispersed off-road recreation activities such as hiking, hunting and fishing.

BENTHIC
Relating to, or occurring in the organisms dwelling at the bottom of a body of water.

---

* In this glossary, some of the entries may not be found in this document. They were included because they are used in some of the specialists' reports which some readers may wish to review. These working reports are available for review at Forest Service offices in Petersburg and Sitka, Alaska.

BEST MANAGEMENT PRACTICES (BMP's)
Prescription outlined in the Project Guidelines developed for suggesting preferred management practices. They are designed to meet commitments and mandates outlined in Forest Regulations.

BIOMASS
The total quantity (at a given time) of living organisms of one or more species per unit of space.

BOREAL FOREST
Forests occurring in northern, regions. A blanket term for all forest types occurring within southeast Alaska.

BORROW SITE
The place from which material is taken for road fill, camp pads, log transfer site fills, etc. Borrow sites may be comprised of alluvial materials or may be excavated from shot rock.

CANT
A log partly or wholly cut and destined for further processing. Maximum thickness 8 3/4 inches.

CAPABILITY
An evaluation of a resource's inherent, natural or intrinsic potential for utilization. (see Suitability).

cfs/cfsm
Cubic feet per second/cubic feet per second per mile. Terminology used in determining and measuring streamflow velocities.

CLEARCUT
A method of regeneration cutting in which the old crop is cut over a considerable area at one time. Regeneration in the Alaska Region is usually natural; and the size of clearcut areas rarely exceeds 100 acres.

CLIMAX FOREST
A forest in which the species and condition of the stand remains fairly stable. This is the culminating stage of succession and should remain stable as long as the environment remains unchanged.

COLLECTOR ROADS
Main branches off mainline roads that penetrate valleys.

COMMERICAL FISHERY
The taking, fishing for, or possession of fish, shellfish, or other fishery resources for profitable purposes.

COMPATIBLE USE
Land uses that can exist together so that no one use improves or detracts from the quality of. In practice, this definition is usually relaxed to include uses that can coexist while conflicting only slightly.

CORE IDT
See Interdisciplinary Team

CRITICAL
See Soils

CRITICAL DEER RANGE
The primary accessible habitat of food and shelter for the winter survival of deer. For more information describing deer winter range and other habitats important to Sitka black-tailed deer, see Wildlife Specialist Report, ALP 1891-86.

CRITICAL FOREGROUND
Foreground in which esthetic values are an important part of the environment, and other significant opportunities are present for existing, anticipated, or planned use and enjoyment by people visiting or travelling through the area.

CROWN CLOSURE
The amount of cover provided by tree crowns over a given area, expressed in percent.

CRUISE
A statistical sample made in a stand of timber to determine total volume and quality.

CUTOVER
Areas of recent harvest.

DESIRED LEVEL
The number of fish and wildlife of any species desired to meet management objectives for those species as determined by the responsible management agencies.

DETRITAL
Of, pertaining to, or composed of minerals occurring in sediment.

DISPERSED RECREATION
Recreation of various kinds that occur generally throughout a large area, and is not confined to a specific place. Further categories of Dispersed Primitive Recreation and Dispersed Semiprimitive Recreation deal with specific site types.

DRAFT ENVIRONMENTAL IMPACT STATEMENT
A statement of environmental effects required for a major Federal Action under Section 102 of the National Environmental Policy Act (NEPA), and released to the public and other agencies for comment and review, prior to a management decision.

DUFF
A layer of loose, partly decomposed vegetative matter on a forest floor.

EASEMENT
An interest in the land of another which allows the easement holder specified uses or rights without actual ownership of the land.

ESCAPEMENT
The number of adult fish returning to their spawning stream.

ESTUARINE HABITAT MANAGEMENT UNIT (EHMU)
The area around an estuary and closely associated with the estuarine ecosystem, having major fish or wildlife values.

ESTUARINE HABITAT SENSITIVITY ZONE (FHSZ)
That portion of the estuarine habitat management unit most sensitive to disturbance and generally

requiring special management prescriptions.

ESTUARY
All or part of the mouth of a river or stream having unimpaired natural connection with open saltwater and within which the seawater is measurably diluted with freshwater. Estuaries include the adjacent grass or mud flats present below mean-higher high tide.

EVAPOTRANSPIRATION
That portion of the precipitation returned to the air through direct evaporation or by transpiration of vegetation, with no attempt made to distinguish between the two.

EXCLUSIVE USE
The permitted occupancy of a specified area of the National Forest by an individual or group which limits or excludes use of that area by the general public or other permitees.

FEASIBILITY
The opportunity for economical harvest and transportation of timber.

FISH HABITAT
The aquatic environment and the immediately surrounding terrestrial environment that, combined, afford the necessary physical and biological support systems required by fish species during various life history stages.

FISH HABITAT MANAGEMENT UNIT
An area of stream and associated bankside habitat identified during IDT processes as having fish values of such major importance that the habitat within the management area designated by the IDT is managed with fish as the primary resource value

FISH HABITAT SENSITIVITY ZONE (FHSZ)
That portion of the fish habitat management unit most sensitive to disturbance and generally requiring special management prescriptions.

FORB
A palatable, broad-leaved plant, nongrass-like, having little or no woody material in it.

FOREST LAND CLASSES
Deferred - productive forest lands withdrawn from cutting until further classification has been determined, i.e. areas of potential resource protection.

Reserved productive forest lands withdrawn from cutting by statue, administrative regulation, or by designation into land use approved by the Regional Forester.

Unregulated - areas that are not organized for timber production, and are potentially allocations to numerous other management activities.

Non-Forest Lands - Land with less than 10 percent cover of commercial tree species.

Non-Commercial Forest Lands - Land with more than 10 percent cover of commercial tree species but not qualifying as Commercial Forest Land.

Commercial Forest Land - Is producing or is capable of producing crops of industrial wood. This includes areas suitable for management and capable of producing in excess of 20 cubic feet per acre of annual growth. All Commercial Forest lands are subdivided into the following components:
a. Standard - the component of the commerical forest land on which timber can be logged with adequate protection of all forest resources under the usual provisions of a timber sale contract.
b. Special - the component of the commercial forest land recognized as needing specially designed treatment of the timber resource to achieve landscape or other key resource objectives.
c. Marginal - the component of the commercial forest requiring excessive development costs, having low product values or having resource protection constraints making the stand inoperable.

FOREST ROAD APPROPRIATION
Funds used for financing all or portions of Forest Development Roads which are required by the terms and conditions of a timber sale contract and limited to the amount necessary to harvest and remove timber and other products covered by that particular sale.

FRY
Recently hatched fish.

HABITAT IMPROVEMENT
Improvement of Habitat that sustains or enhances production of fish or wildlife. Examples are fishways past obstacles, debris removal in streams, seeding on roadsides, or creating openings for deer habitat.

HAZARD
See Soils.

HIGH LEAD CABLE LOGGING
A method for transporting logs from the stumps to a collecting point by using a powered cable, passing through a block fastened high off the ground to a tower or spar to lift the front ends clear while dragging them.

INFAUNA
The organisms living below the water-bottom interface, such as many marine worms, clams, and other invertebrates.

INOPERABLE TIMBER
Timber which cannot be harvested because of potential resource damages, economic unfeasibility, or physical limitations and inaccessibility.

INTERDISCIPLINARY TEAM (IDT)
A group of individuals with different training backgrounds assembled to solve a problem or perform a task. The team is assembled out of recognition that no one scientific discipline is sufficiently broad enough to adequately solve a problem. The Core IDT is the control planning subunit within the IDT.

INVENTORY VOLUME

Volume of commercial timber actually on the ground, usually presented as board feet or cubic feet per acre.

LAND FORM

Land form is used for surface features whose origins can be attributed to particular geological processes or particular structures.

LANDSCAPE CHARACTER TYPES

See Visual Character Types.

LANDSCAPE VARIETY CLASSES

Reflect natural scenic qualities. Distinctive landscape variety ratings are generally applied to those areas with outstanding or unusual visual quality. Conversely, landscapes with little diversity in landform, vegetative patterns, waterforms, or rock formations are given lower variety class ratings.

LANDTYPE

Visually identifiable unit areas of similar land form and climatic processes having defined patterns of soils and vegetative potentials. They can range in size from about 1/10 to 1 square mile. Among character types within which specific landtypes occur are:

Alpine The higher regions of mountain systems, strictly defined as the regions between timber lines and permanent snow lines.

Muskeg - A marshy area similar to a bog, with insufficient drainage and a considerable depth of moss or sedge.

Valley Bottoms and Lowlands - Relatively flat land or rolling foothills at lower elevations, including valley side slopes less than 40 percent.

Valley Walls - Continuous sideslopes generally exceeding 40 percent.

V-Notches - Narrow, steep sided ravines or valley watersheds with V-shaped cross sections whose bottom usually contains a watercourse often recognized as a sign of geological weakness or post-glacial channeling.

Wetlands - Those areas that are inundated by surface or ground water with a frequency sufficient to support, and under normal circumstances does or would support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction.

LAND USE DESIGNATIONS (LUD)

Land use designations are a method of classifying or zoning lands according to a combination of various uses and use intensities. Uses or activities are grouped together so they define, together with a set of coordinating policies, a combination of activities which are essentially compatible.

LUD I - All areas allocated to LUD I will be either recommended for wilderness designation or will be studied for such a designation. LUD I is usually applied to undeveloped lands which provide opportunities for solitude and primitive types of recreation and contain unaltered habitats for plant and animal species. If an area allocated to LUD I is added to the National Wilderness Preservation System by Congress, certain management implications would apply.

LUD II - This designation provides greater management flexibility than LUD I while still retaining the primitive wildland environment. Primitive recreational facilities can be built, and habitat improvements for fish and wildlife are also permitted

LUD III - LUD III areas are managed to provide a combination of both amenity and commodity values. The goal is to achieve compatibility among competing resource uses within the same area.

LUD IV - In LUD IV the goal is to provide opportunities for intensive development of resources. Emphasis is primarily on commodity, or market, resources and their use. Amenity values are also provided for. When conflicts over competing resource uses arise, however, these conflicts would most often be resolved in favor of the commodity values than would be the case in LUD III.

LEACHATES

Matter removed from a substance by percolating.

LIFESTYLE

A characteristic way of living which may be an individual variant within the cultural mainstream or may be an individual expression of a subculture.

LINE OFFICER

Chief, Regional Forester, Forest Supervisor, or District Ranger.

LITHICS

Of, relating to, or made of stone.

LITTORAL

Belonging to the shore of a large body of water.

LOG TRANSFER SITE (L.T.S.)

Location at which logs are transferred from land to water in preparation for making rafts for storage or towing to the mill, i.e. log dump. This also applies to sites for barge loading.

LONG-TERM PUBLIC INTEREST

A subjective judgement that must balance the collective needs and benefits of the general public against the needs and benefits of individuals or special interest groups over the foreseeable future. This judgement involves consideration of environmental values for specific locations and uses, economic feasibility, and evaluation of social and economic needs.

MANAGEMENT ACTIVITY

An action taking place on-the-ground as a result of a management decision. Examples are clearing debris, timber harvests, planting trees, and fish ladder construction.

MANAGEMENT AREA

Subunits of forest administrative areas are called specific management areas. Management areas are made up of the smaller Value Comparison Unit (VCU's) which have similar Land Use Designation LUD, resource, and physical allocations, and where specific activities will all be included in the same prescriptive management plan.

MANAGEMENT OBJECTIVE
The policy setting the kind of management to be done on a Management Area.

MANAGEMENT PRESCRIPTIONS
Specifically sets forth policies and standards under which Management Objectives will be carried out. Commonly consists of a comprehensive statement in words, maps, illustrations and other media explaining the means in which objectives can be carried out in pertinent management areas.

MARGINAL
See Forest Land Classes.

MAXIMUM MODIFICATION
See Visual Quality Objectives

MEAN ANNUAL INCREMENT
The total volume of a tree or stand divided by the age, with volume expressed in cubic feet or board feet or board feet per year.

MINERAL DEFINITIONS
Critical Material - Material that is vital to the national defense, the main source of which is within the continental limits of the United States, and which may not be produced in quality and in quantity sufficient to meet requirements.
Critical Minerals - Minerals essential to national defense, the procurement of which in war, while difficult, are less serious than those of strategic minerals because they can be either domestically produced or obtained in more adequate quantities or are less essential, but for which some degree of conservation and distribution control is necessary.
Essential Minerals - A mineral essential to national defense for which no great difficulty of procurement during war is anticipated, but which requires constant surveillance because future developments may necessitate reclassification as strategic or critical.
Strategic Minerals - Minerals essential to the national defense for the supply of which, during war, we are wholly or in part dependent upon sources outside the continental limits of the United States, and for which strict measures controlling conservation and distribution are necessary.

MMbm
One million board measure.

MODIFICATION
See Visual Objectives.

MORPHOLOGY
The observation and study of the forms and structures of land and organisms.

MULTIPLE ENTRY
Entering an area more than once during a given rotation period for the purpose of harvesting timber.

NICHE
A site or habitat supplying the factors necessary for the successful existance of a species.

NON-POINT SOURCE POLLUTION
Pollution whose source is general rather than specific in location. Logging operations, production of sediments, and automobile exhaust are examples of this form of pollution.

NON-PRODUCTIVE
See Soils.

NON-STANDARD HARVEST OPERABILITY
Timber which cannot be harvested with standard equipment and techniques, but would require other systems including balloon or helicopter and skyline over 2600 feet.

NORMAL HARVEST OPERABILITY
Timber which can be harvested with standard equipment and predominant techniques not in use. These include highlead, A-frame, skyline less than 2600 feet, and tractor.

NURSERY AREA
The fresh or saltwater areas used by fish or shellfish during their juvenile life stages.

OLD-GROWTH SAWTIMBER
CFL stands more than 10 percent stocked where the plurality of stocking is in Sawtimber trees (11 inches or larger) more than 150 years old.

OPERABILITY
Timber suitable for harvest with the capability of being harvested and transported to a market. See Inoperable, Non-standard, and Normal Harvest Operability.

OVERSTORY
That portion of trees in a forest with more than one roughly horizontal layer of foliage forming the upper layers.

PARTIAL CUTTING
All methods of tree removal which result in taking only part of a stand.

PARTIAL RETENTION
see Visual Quality Objectives.

pH
A measure of the hydrogen-ion activity in solutions, expressed on a scale of 0 (highly acid) to 14 (highly basic); 7 pH is a neutral solution, neither acid nor basic.

PLANKTON
Floating or drifting life within a body of water.

P-Line
A preliminary survey line.

POLETIMBER
CFL stands at least 10 percent stocked with growing stock trees of which a higher plurality are between 5.0 and 10.9 inches in diameter. Also refers to the individual trees within such stands.

POTENTIAL YIELD
The potential yield for the next ten years is the maximum harvest that could be planned to achieve the optimum perpetual sustained-yield harvesting level attainable with intensive

forestry on regulated areas considering the productivity of the land, conventional logging technology, standard cultural treatments and interrelationships with other resource uses and the environment.

PRESCRIPTION
See Management Prescription.

PRESERVATION
See Visual Quality Objectives.

PRODUCTIVE
See Soils.

PROJECT PLAN
The level of planning dealing with actual physical impacts on the land, usually the last planning level before resources are cut or dug, roads are built, or any other significant action takes place.

PURSE SEINING
Fishing method involving large, basket-like nets.

RARE II
(Roadless Area Review and Evaluation). Environmental survey of roadless areas as a means of gaining alternative approaches for deciding use of undeveloped areas.

RECONNAISSANCE
A preliminary survey usually executed rapidly and at a relatively low cost.

RENEWABLE RESOURCE
Any resource, such as timber or fish, that is not depleted through use and that can be managed so that the use of present supplies does not diminish future flows.

RETENTION
see Visual Quality Objectives.

RETENTION FACTOR
The amount of commercial forest land removed from the timber base to protect other resource values. These factors are allowances available to draw upon when meeting other resource needs and are not fixed policies.

RIFFLES
A shallow extending across the bed of a stream commonly having minor rapids.

RIGHT-OF-WAY
The privilege which one person or persons particularly described, may have of passing over the land of another in some particular line. Usually, an easement over the land of another. The term is used to describe a strip of land used for railroad and highway purposes, for pipe or pole line, and for private or public passageways.

RIPARIAN
Pertaining to the banks of a body of water.

ROTATION
The planned number of years (approx. 100 years in Alaska) between the formation of regeneration of a stand and its final cutting at a specified stage of maturity.

SALMONIDS
All members of the family Salmonidae, including salmon, trouts, and char.

SALVAGE CUTTING
Cutting primarily to utilize dead and down material and scattered poor risk trees that will not be marketable if left in the stand until the next scheduled harvest.

SAWTIMBER
Trees considered suitable in size (11 inches diameter, and larger) and quality for producing sawn timber

SCALE VOLUME
The volume of timber, reported in board feet or cubic feet, as measured by a mensuration formula.

SCENIC QUALITY
The esthetic pleasure associated with the visual characteristics of the landscape.

SEEDLING OR SAPLINGS
CFL stands at least 10 percent stocked with growing-stock trees and with 51 percent of stocking in seedlings and/or saplings less than five inches in diameter.

SEED TREE SYSTEM
Logging system which leaves selected trees standing within cutting areas to provide seed for natural regeneration of the timbered area.

SELECTION CUTTING
The periodic removal of trees (primarily the mature) individually or in small groups. This maintains an unevenaged forest.

SESSILE
Applied to animals and organisms that are closely attached to other objects without any inherent support systems of their own.

SHELTERWOOD CUTTING
An even-aged silvicultural system in which the mature crop is removed in two or more successive cuttings.

SILVICULTURE
Generally, the science and art of cultivating (i.e. growing and tending) forest crops. More particularly, it is the theory and practice of controlling the establishment, composition, constitution, and growth of forests.

SITE INDEX
This is the ability of a site to produce wood. It is usually expressed as average tree height at a given age. Age 100 is used on the Tongass. Soil ecosystem F-1 has a site index of ± 150.

SLOPE CLASS
The steepness of the ground measured by percent.

SLASH
Debris left over after a logging operation, i.e. limbs, bark, broken pieces of logs.

SOILS
Soils have been evaluated and classified into categories in relationship to their inherent qualities and defects and suitability for developmental activities.

Critical - A soil type whose physical properties cause it to be inherently unstables.
Hazard - Soil on excessively steep slopes (usually 37 degrees or more) subject to sliding; or soil in sharp V-notches.
Non-Productive - Poorly drained soils represented by muskeg and scrub combinations.
Productive - Soil sufficiently deep and well-drained to produce significant growth rates in vegetation. In southeast Alaska, this soil is capable of producing timber growth rates of 20 cubic feet or more annually.

SPAWNING AREA
The available area within the confines of a streamcourse which is suitable for the deposition and incubation of salmon or trout eggs.

SPECIES DIVERSITY
The number of different species occurring in a location or under a similar condition.

SPECIAL
see Forest Land Classes.

SPECIAL USE PERMIT
A permit that authorizes the permittee to engage in specified activities or erect specified structures at designated locations on the National Forest.

STANDARD
See Forest Land Classes.

STRIP CUTTING
A clearcutting system variation in which the cutting areas are essentially rectangular patches running through a stand, usually of a width not more than several times the general stand height.

STUDY AREA
An area of land that has been designated for an evaluation of its resources, productive capability, and existing or potential uses.

STUMPAGE
The value of timber as it stands in terms of an amount per board foot.

SUBSISTENCE
The derivation of part or all of one's livelihood from the surrounding environment without monetary exchange. Examples are the inclusion of fish in basic summer diet, and deer as a winter staple.

SUCCESSIVE STAGE
One stage in a series of changes affecting the development of a biotic community. On its path to a climax stage of arrested development, the community will pass through several stages of adaptaion to environmental changes (e.g. Mineral soil-primary succession; disturbed land-secondary succession stages).

SUITABILITY
An evaluation based upon a resource's potential utilization within proposed management activities.

THIXOTROPY
The property of changing from gel to fluid when disturbed. The process is reversible, and characteristic of southeast Alaska soils.

THOUSAND-FOOT BOARD MEASURE
A method of timber measurement in which the unit is equivalent to 1,000 square feet of lumber one inch thick. It can be abbreviated as Mbd. ft., Mbm, or MBF.

TONGASS LAND MANAGEMENT PLAN (TLMP)
The land allocation plan for the Tongass National Forest which serves to direct and coordinate further planning on the Forest as well as the uses and activities carried on within the Forest on a day-to-day basis. TLMP provides management direction for a period of ten years.

TOPOGRAPHY
The configuration of the land surface including the relief and position of natural and human-made features.

TRANSPORTATION CORRIDOR
A general route that fits the physiography of land and water and that offers opportunities for the movement or transmission of people, goods, fuel or energy from one point to another. Travel Corridor is the specific term for main routes of transportation (highways, boat travel routes) within an area.

TRANSPORTATION SYSTEM
All existing and planned roads, trails, bridges, airfields, and other transportation facilities or routes.

UNACCEPTABLE MODIFICATION
See Visual Quality Objectives.

UNDERSTORY
The small trees and other woody species growing under a more or less continuous cover of branches and foilage formed collectively by the upper portions of adjacent trees and other woody growth (overstory).

UNREGULATED
See Forest Land Classes.

VALLEY BOTTOMS AND LOWLANDS
see Landtypes.

VALLEY WALLS
see Landtypes.

VALUE COMPARISON UNIT (VCU)
A distinct geographic area that generally encompasses a drainage basin containing one or more large stream systems. Boundaries usually follow easily recognizable watershed divides. These units were established to provide a common set of areas for which resource inventories could be conducted and resource value interpretations made.

VIEWER SENSITIVITY LEVELS
Are determined for land areas viewed by those who are travelling through the forest by air, waterways, roads, and trails; are using facilities such as campgrounds, visitor centers, public cabins, picnic grounds, winter sports areas, and resorts; or are otherwise concentrating use and recreation at lakes, streams, and other water bodies. High sensitivity levels are associated with areas of national importance and high public use, e.g. ferry routes, tour ship routes, high volume recreational waterways,

anchorages, camping areas, and permanent communities. Lower sensitivity levels are identified with areas lacking national prominence or receiving limited use by recreationists.

VISITOR DAY
The visitation provided by one or more persons for a period of 12 to 24 hours, either continuous or spread over several visits.

VISUAL CHARACTER TYPES
An area of land that has common distinguishing visual characteristics of landform, water forms, and vegetation patterns. Used as a frame of reference to rate physical features of an area as to their degree of scenic quality.

VISUAL QUALITY OBJECTIVES
A set of measurable goals for management of forest visual resources. Inventoried Visual Quality Objectives result from an analysis of landscape variety, viewer sensitivity levels, and viewing distance. Adopted VQO's are the final Visual Quality Objectives describing the visual resource goals for a particular land management alternative.

Preservation: Management activities, except for low visual-impact recreation facilities, are undesirable. Allows only ecological changes.
Retention: Management activities should not be visually evident as seen from viewing positions.
Partial Retention: Management activities can be visible but should be visually subordinate to the characteristic natural landscape.
Modification: Management activities may visually dominate original landscape characteristics. However, visual characteristics of management activity should borrow from those of natural occurrences within the surrounding area.
Maximum Modification: Management activities may dominate the natural landscape. When viewed from foreground or middleground viewing positions, they may not borrow from the natural landscape. But, when viewed from background positions, the activity should have the visual characteristics of the natural landscape. All foreground and middleground alterations should be designed to reduce undue contrast within five years.
Unacceptable Modification: Management activities which do not meet Visual Quality Objectives. Overall extent of management activity is excessive. Size of activity is poorly related to the scale of landform and vegetative patterns in the characteristic landscape. These activities should not be permitted regardless of distance zones.

V-NOTCH
See Landtypes.

VOLUME CLASS
Average stand volume usually given as net board feet per acre, Scribner Rule, on the Tongass.

WETLAND
See Landtypes
Those areas that are inundated by surface or ground water with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction.

WHIP REMOVAL
The removal of all trees left standing after logging to prevent the spread of dwarf mistletoe.

WILDERNESS
Any large tract of land uncultivated and uninhabited by human beings, where the earth and its biotic community is untrammeled by humans, where humans are the visitors who do not remain.

WILDLIFE CORRIDOR
A natural route offering relative ease of travel for terrestrial animals as dictated by land forms, water, and/or vegetation and often descending a ridge or paralleling a river.

WILDLIFE HABITAT
The locality where the species may generally be found and where all essentials for its development and existance are present.

WILDLIFE HABITAT MANAGEMENT UNIT (WHMU)
An area of wildlife habitat identified during the IDT process as having wildlife values of such importance that the habitat within the management area designated by the IDT is managed with wildlife as the primary resource value.

WINDTHROWS
Areas or particular trees uprooted by wind velocity.

*In this glossary, some of the entries may not be found in this document. They were included because they are used in some of the specialists' reports which some readers may wish to review. These working reports are available for review at Forest Service offfices in Petersburg and Sitka, Alaska.

Sources Cited and Used

For the ease and convenience of the reviewer, national direction for the preparation of environmental assessments is to make supporting materials available to the reader upon request. Therefore, this document attempts only to highlight key information gathered by resource specialists.

Detailed reports and working maps are available from the Chatham and Stikine Forest Service Offices. This information includes both material prepared by the 1981-86 IDT and documents prepared during earlier planning studies which remains relevant to this environmental assessment.

Interested individuals are encouraged to contact the agency to obtain further information. In some cases this material can be provided by mail. In other instances, it will be necessary for the reviewer to visit the Forest Service office to examine data.

The Tables which follow identify both material prepared by the Forest Service and those non-Forest Service documents which were used by specialists in preparing this environmental assessment.

FISHERIES

Averett, Robert Craig.
1969. Influence of temperature on energy and material utilization by juvenile coho salmon. Ph.D thesis, Oreg. State Univ., Corvallis, 81 p. Diss. Abste. 29(10): 4435-B.

Bishop, Daniel M., and S. Philip Shapley.
1963. Effects of log-debris jams on southeast Alaska salmon streams. 13th Alaskan Sci. Conf. Proc. 1962:90.

Bishop, Daniel M., and M. E. Stevens.
1964. Landslides on logged areas in southeast Alaska. Northern Forest Exp. station, Paper NOR-1, U.S. Dept. of Agri., Forest Service, Juneau, Alaska.

Boussu, M.F.
1954. Relationship between trout populations and cover on a small stream. 18:229-239. J. Wildl. Mgmt.

Brown, George W.
1971. Water temperatures in small streams as influenced by environmental factors and logging. In: James Morris (ed.) Proceedings of a symposium--forest land uses and stream environment. p. 175-181. Oreg. State Univ., Corvallis.

Buchanan, David V., P. S. Tate, and J. R. Moring.
1976. Acute toxicities of spruce and hemlock bark extracts to some estuarine organisms in southeast Alaska. J. Fish. Res. Board Can. 33:1188-1192.

Burns, J. E.
1970. The Importance of Streamside Vegetation to trout and salmon in British Columbia. Department of recreation and Conservation, Fish and Wildlife Branch Vancouver Island Region, Fisheries Technical Circular #1. 17 pages.

Carriker, M. R.
1967. Ecology of estuarine benthic invertebrates: a perspective. In: G. H. Lauff (ed.), Esturaries, p. 442-487. American Association for the Advancement of Science, pub. no. 83. Washington, D. C.

Chapmen, D. W.
1962. Effects of logging upon fish resources of the West Coast. J. For. 60:533-537.

Chapman, D. W., and R. Demory.
1963. Seasonal changes in the food ingested by Aquatic insect larvea and nmyphs in two Oregon streams. Ecol., 44:140-146.

Coker, R.E.
1954. Streams, lakes, ponds. Univ. North Carolina Press. vii 32, 411 pp.

Cordone, A.A.
1956. Effects of logging on fish production. State of Calif. Dept. Fish and Game, Inland Fish. Admin. Report, pp. 56-57.

Davis, H. S.
1953. Culture and diseases of game fish. Univ. Calif. Press, 332 pp.

Elliott, S.T.
1977. Ecology of rearing fish. Alaska Dept. of Fish and Game. Fed. Aid in Fish Restoration Annual Report of Performance, 1976-1977, Proj. f-9-9, 18(DI): 12 pp.

Ellis, R. J.
1973. Preliminary biological survey of log-rafting and dumping areas in southeastern Alaska. MFR Paper 980. Marine Fish Rev. 35:19-22.

Elser, A. A.
1968. Fish populations of a trout stream in relation to major habitat zones and channel alterations. Trans. Amer. Fish. Soc., 97:389-397.

Eschner, A. R., and J. Larmoyeaux.
1963. Logging and trout: four experimental forest practices and their effect on water quality. Prog. Fish. Cult., 25:59-63.

Forest Service Documents
Stream Reach Assessment Reports and Maps (Sitka Office) 1981-86 Specialist Report (Sitka and Petersburg Offices) Base Map-Fish Streams (Petersburg Office)

Frederiksen, R. L.
1970. Erosion and sedimentation following road construction and timber harvest on unstable soils in three small western Oregon watersheds. Pac. Northwest Forest Range. Exp. Sta. Pap. PNW-104, 15 p. U.S. Dept. of Agr. Forest Serv., Portland, Or.

Froehlich, Henry A.
1975. Accumulation of large debris in forest streams before and after logging. In: Logging debris in streams workshop. 10 p. Oregon State Univ., Corvallis.

Giger, Richard D.
1973. Streamflow requirement of salmonoids. Federal Aid Progress reports, Fisheries research Division. 117 p. Oregon Wildlife Com., Portland.

Graham, John L.
1970. Pollutants leached from selected species of wood in log storage waters. M. S. thesis, 46 p. Oregon State Univ., Corvallis.

Gray, J. R. A., and J. M. Edington.
1969. Effect of woodland clearance on stream temperature. F. Fish. Res. Board. Can. 26:399-403.

Gunderson, D.R.
1968. Floodplain use related to stream morphology and fish populations. Jour. Wildl. Mang., 32:507-514.

Hall, J. D., and C. O. Baker.
1975. Biological impacts of organic debris in Pacific Northwest streams. In: Logging Debris in Streams Workshop, 13 p. Oregon State University, Corvallis.

Hall, J. D., and R. L. Lantz.
1968. Effects of logging on the habitat of coho salmon and cutthroat trout in coastal streams. Paper 2570. Oreg. Agric. Exper. Station, Tech.

Hall, J. D., and R. L. Lantz.
1969. Effects of logging on habitat of coho salmon and cutthroat trout in coastal streams. In: T. G. Northcote (ed.), Symposium on Salmon and Trout in Stream, p. 355-375. H. R. MacMillan Lectures in Fisheries, University of British Columbia, Vancouver.

Helmers, A. E.
1966. Some effects of log jams and flooding in a salmon spawning stream. U.S. Forest Serv. Res. Note NOR 14, 4 p.

Herbert, D. W. M., and J. C. Merkins.
1961. The effect of suspended mineral solids on the survival of trout. Int. J. Air Wat. Poll. 5:46-55.

Hynes, H. B. N.
1963. Imported organic matter and secondary productivity in streams. Int. Congr. Zool. 16, 4, 324-9.

Jeffrey, W. W.
1968. Forest harvesting and water management. The Forest Chronicle, 44(6), Dec. 1968.

Jeffrey, W. W.
1968. Watershed management problems in British Columbia: a first appraisal. Water Res. Bull. Amer. Water Resources Assoc. 4(3):58-70.

Koski, K. V.
1966. The survival of coho salmon (Oncorhynchus kisutch) from egg deposition to emergence in three Oregon coastal streams. M.S. thesis. 78 p. Oreg. State Univ.

Lantz, Richard L.
1971. Influence of water temperature on fish survival, growth, and behavior. In: James T. Krygier and James D. Hall (eds.), Proceedings of a Symposium, Forest Land Uses and Stream Environment. p. 182-193., Oregon State Univ., Corvallis.

McCrimmon, H. R.
1954. Stream studies on planted Atlantic salmon. Jour. Fish. Res. Bd., Can., 11(4):362-403.

McMynn, R. G.
1970. Green Belts or leave strips to protect fish! Why? Department of Recreation and Conservation, Commercial Fisheries Branch. 36 pages. Victoria, B.C.

McNeil, William J.
1964. Redd superimposition and egg capacity of pink salmon spawning bed. J. Fish Res. Board Can. 21:1385-1396.

McNeil, W. J., and W. H. Achnell.
1964. Success of pink salmon spawning relative to size of spawning bed materials. U.S. Fish and Wildl. Serv. Sci. Rep. Fish. 490, 15 pp.

Mason, J. C.
1965. Behavioral ecology of juvenile coho salmon (Oncorhynchus kisutch) in stream aquaria with particular reference to competition and aggressive behavior. PhD. thesis. 195 pp. Oreg. State Univ.

Meehan, William R.
1970. Some effects of shade cover on stream temperature in southeast Alaska. USDA for Serv. Res. Note PNW-113, 9 pp. Pac. Northwest For. and Range Exp. Stn., Portland, Oreg.

Meehan, William R.
1974. The forest ecosystem of southeast Alaska. Fish habitat. USDA For. Serv. Gen. Tech. Rep. PNW-15. 41 p.

Meehan, W. R., and T. R. Merrill, Jr.
1978. Addendum to a memorandum of understanding between the Auke Bay Lab. of the Northwest and Alaska Fisheries Center, N.M.F.S., and the Juneau Forestry Sciences Lab. of the Pacific Northwest Forest and Range Experiment Station. U.S. Forest Service, for a cooperative Fishery Research Program.

Megrhan, W. F., and W. J. Kidd.
1972. Effects of logging and logging roads on erosion and sediment deposition from steep terrain. J. For. 70(3) 136-141.

Moring, J. R., and R. L. Lantz.
1974. Immediate effects of logging on the freshwater environment on salmonoids. Oregon Wildlife Comm., Res. Div., Project AFS-58, final report. 101 p.

Narver, David W.
1971. Effects of logging on fish production. In: James Morris (ed.), Proc. of a symposium--forest land uses and stream environment. Oregon State Univ., Corvallis, Oregon.

Narver, David W.
1972. A survey of some possible effects of logging on two eastern Vancouver Island streams. Fish. Res. Board Can. Tech. Rep. 323, 55 p.

Newell, R. C.
1970. Biology of intertidal animals. 563 p. American Elsevier Publishing Co., Inc., New York.

Odum, W. E.
1970. Insidious alteration of the estuarine environment. Trans. Amer. Fish. Soc. 99:836-847.

Packer, Paul E., and George F. Christensen.
(No date). Guides for controlling sediment from secondary logging roads. USDA Forest Service Intermt. For. & Range Exp. Stn. of North. Reg., 42 p. Missoula, Montana.

Pease, Bruce C.
1974. Effects of log dumping and rafting on the marine environment of southeast Alaska. USDA For. Ser. Gen. Tech. Rep. PNW-22, 58 p.

Peters, G. B.
1974. The effect of leachate from western red cedar, Thuja plicata Donn., on aquatic organisms. M.S. thesis. 170 p. Univ. of Washington State.

Phillips, R. W.
1971. Effects of sediment on the gravel environment and fish production. In: J. Morris (ed.), Proc. of a symposium--Forest land uses and stream environment, p. 64-74. Oregon State Univ., Corvallis.

Platts, William S.
1974. Geomorphic and aquatic conditions influencing salmonids and stream classification. Surface Environ. and Mining Fishery Biol., USDA Forest Serv., 199 p.

Reed, R. D., and S. T. Elliott.
1972. Effects of logging on Dolly Varden. Alaska Dept. of Fish and Game report R-IV-B. 61 p.

Review 1967-1968, 1969.
Food sources in streams. Fish Res. Bd. Can. pp. 5-6.

Ruth, Robert H., and A. S. Harris.
1975. Forest residues in hemlock-spruce forests of the Pacific Northwest and Alaska--A state of knowledge review with recommendations for residue management. USDA Forest Service Gen. Tech. Rep. PNW-39.

Ralston, M.E.
1979. The Forest Ecology and Silviculture of Alaska. M.S. thesis, University of Washington, Seattle. 96 pp.

Schoen, J.W.
1978. Evaluation of Deer Range and Habitat Utilization in Various Successional Stages. Alaska Dept. of Fish and Game. Federal Aid in Restoration Final Report, Proj. W-17-10, Job 2.5 R. 28 pp.

Schoen, J.W. and O.C. Wallmo.
1979. Timber Management and Deer in Southeast Alaska: Current Problems and Research Direction. Pages 69-85 in J.W. Schoen and O.C. Wallmo (EDS.). Proc. Sitka Black-Tailed Deer Conf., U.S. Forest Service, Juneau, Alaska. 231 pp.

Regelin, W.L.
1979. Nutritional Interactions of Black-Tailed Deer with Their Habitat in Southeast Alaska. Pages 60-68 in J.W. Schoen and O.C. Wallmo (EDS.), Proc. Sitka Black-Tailed Deer Conf., U.S. Forest Service, Juneau, Alaska. 231 pp.

Weger, E.
1977. Evaluation of Winter-Use of Second Growth Stands by Black-Tailed Deer. B. Sc. Thesis, University of British Columbia, Vancouver, B.C. 41 pp.

SILVICULTURAL

Forest Service Documents
1981-86 Specialist Reports (Sitka and Petersburg Offices)
Timber Harvest Unit Cards - Harvest Stand Description and Recommendations (Petersburg Office)

Harris, Arland S., and Wilbur A. Farr.
1974. The Forest Ecosystem of Southeast Alaska. 7. Forest Ecology and Timber Management. Pacific Northwest Forest and Range Experiment Station, USDA-FS General Technical Report 25.

Saunders, J. W., and M. W. Smith.
1965. Changes in a stream population of trout associated with increased silt. J. Fish. Res. Board. Can. 22(2):395-404.

Schaumburg, F. D.
1970. The influence of log handling on water quality. Annual report (1969-1970) F.W.P.C.A. Research Grant WP-01320. 212 p. Oregon State University, Corvallis.

Schultz, R. D., and R. J. Berg.
1976. Some effects of log dumping on estuaries. Alaska Region Environmental Assessment Division Processed Report. National Marine Fisheries Service. 69 p.

Scott, D. G.
1958. Biological balance in streams. Sewage Ind. Wastes, 1958, 1169-73.

Servizi, J. A., D. W. Martens, and R. W. Gordon.
1970. Effects of decaying bark on incubating salmon eggs. Int. Pac. Salmon Fish. Comm. Progr. Rep. 24. 28 p.

Sheridan, W. L.
1961. Temperature relationship in a pink salmon stream in Alaska. Ecology 41(1):91-98.

Sheridan, W. L.
1969. Effects of log debris jams in salmon spawning riffles in Saginaw Creek. 12 p. USDA For. Serv., Juneau, Alaska.

Sheridan, W. L., and A. M. Bloom.
1975. Effects of canopy removal on temperature of some small streams in southeast Alaska. 13+p. USDA Forest Service Region 10.

Sherk, J. A.
1971. The effects of suspended and deposited sediments on estuarine organisms: literature summary and research needs. Chesapeake Biological Laboratory, Maryland Contribution No. 443, 76 p. Univ. of Maryland, Solomons.

Shumway, D. L., C. E. Warren, and P. Deudoroff.
1964. Influence of oxygen concentrations and water movement on the growth of steelhead trout and coho salmon embryos. Trans. Amer. Fish. Soc., 93:342-356.

Stewart, Phillip A.
1970. Physical factors influencing trout density in a small stream. Ph.D thesis. 78 p. Colorado State Univ., Fort Collins, Colo.

Swanston, D. N., and W. J. Walkotten.
1969. The effectiveness of rooting as a factor of shear strength in the Karta soil. Progress Report, Study No. FS-PNW-1604:26, USFS Juneau, Alaska.

Swanston, Douglas N.
1974. The forest ecosystem of southeast Alaska. No. 5. Mass soil movement. Pacific Northwest Forest and Range Experiment Station. Tech. Rep. PNW-17. 22 p. U.S. Department of Agr. Forest Service, Portland, Oregon.

Swift, Lloyd W., Jr., and J. B. Messer.
1971. Forest cuttings raise temperatures of small streams in the southern Appalachians. J. Soil & Water Conserv. 26(3):111-116.

Tebo, L. B., Jr.
1955. Effects of siltation resulting from improper logging, on the bottom fauna of a small trout stream in the Appalacians. Prog. Fish. Cult. 17(2):64-70.

Triska, F. J., and J. R. Sedell.
1975. Accumulation and processing of fine organic debris. In: Logging Debris in Streams Workshop. 6 p. Oregon State University, Corvallis, Oregon.

Tyler, Richard W., and Dave R. Gibbons.
1973. Observations of the effects of logging on salmon producing tributaries on the Staney Creek watershed and the Thorne River watershed and of logging in the Sitka district. FRI-UW-7307, 58 p. Univ. of Washington.

U.S. Department of Agriculture.
1970. Water, land, and related resources, north central area of California, and portions of southern Oregon. Appendix No. 1 - sediment yield and land treatment Ed/and Mad River basis. 143 pp. June 1970.

U.S. Environmental Protection Agency.
1975. Region X, Water division. Logging roads and protection of water quality. 312 pp.

Vaux, W. G.
1968. Intragravel flow and interchange of water in a streambed. U.S. Fish and Wildl. Serv. Fish. Bull. 66:479-489.

Warner, K., and F. R. Porter.
1960. Experimental improvement of a bulldozed trout stream in Northern Maine. Trans. Amer. Fish. Soc. 89:59-63.

Whitney, A. N., and J. E. Bailey.
1959. Detrimental effects of highway construction on a Montana stream. Trans. Amer. Fish. Soc. 88:72-73.

Wustenberg, D. W.
1953. Relationship between logging and fish production. M.A. thesis in Oregon State Game Commission Annual Report. Fish Div. 195. pp. 348-349.

Ziemer, R. R., and Swanston, D. N.
1977. Root strength changes after logging in southeast Alaska. Pacific Northwest Forest and Range Experiment Station. Paper PNW-306. 10 pp. U.S. Dept. of Agr. Forest Service, Portland, Oregon.

WATER RESOURCES

Bishop, D. M., and M. E. Stevens.
1964. Landslides on logged areas in southeast Alaska. U.S. Forest Service Res. Paper NOR-1.

Brown, G. W., and J. T. Kygier.
1970. Effects of clearcutting on stream temperature. Water Resour. Res. 6:1133-1139.

Brown, G. W., and J. T. Kygier.
1971. Clearcut logging and sediment production in the Oregon Coast Range. Water Resour. Res. 7:1189-1199.

Forest Service Documents
Pretreatment Data on Water Quality and Quantity (Sitka Office) Indian River Non-Point Station Monitoring Progress Reports (Sitka Office) Kadashan Barometer Watershed Progress Reports (Sitka Office)

Fredriksen, R. L.
1970. Comparative chemical quality - natural and disturbed streams following logging and slash burning. In: Proc. Symp. Effects of Forest Land Use and Stream Environment. pp. 125-137. Oregon State University, Corvallis.

Hewlett, J. D., and W. L. Nutter.
1967. Outline of Forest Hydrology. Univ. of Georgia Press. 125 pp.

Meehan, W. R., W. A. Farr, D. M. Bishop, and J. H. Patric.
1969. Some effects of clearcutting on salmon habitat of two southeast Alaska streams. U. S. Forest Service Res. Paper PNW-82.

Rothacher, J.
1965. Streamflow from small watersheds on the western slope of the Cascade Range of Oregon. Water Resour. Res. 1:125-134.

Schmiege, D C., A. E. Helmers, and D. M. Bishop.
1974. The forest ecosystem of southeast Alaska, Part 8, Water. U. S. Forest Ser. Gen. Tech. Rep. PNW-28. 26 pp.

SOILS

Bishop, D. M., and M. E. Stevens.
1964. Landslides on logged areas in southeast Alaska. Northern Forest Expt. Sta. 18 pp. Juneau, Alaska.

Forest Service Documents
Soil Map of East Kuiu Island Management Unit (Petersburg Office), Soil Productivity Map of East Kuiu Island Management Unit (Petersburg Office), Soil Hazard Map of East Kuiu Island Management Unit (Petersburg Office), 1981-86 Specialist Report (Sitka and Petersburg Offices)

Fredricksen, R. L., D. G. Moore, and L. A. Norris.
1973. The impact of timber harvest, fertilization, and herbicide treatment on stream water quality in western Oregon and Washington. In: Proceedings of the Fourth North American Forest Soils Conference. pp. 283-313. Laval University, Quebec.

Haupt, H. F., and W. J. Kidd, Jr.
1965. Good logging practices reduce sedimentation in central Idaho. J. of Forestry 63(9):664-670.

Ruth, R.
1967. Silvicultureal effects of skyline crane and high-lead yarding. J. Forestry 65:251-255.

Rice, R. M., J. S. Rothacher, and W. F. Megahan.
1972. Erosional consequences of timber harvesting: An appraisal. Watersheds in Transition. American Water Resources Assoc. Proc. Series 14. pp. 321-329.

Stephens, R. F., C. R. Gass, and R. F. Billings.
1968. Soils and site index in southeast Alaska. USDA-Forest Service Alaska Region. 17 pp.

TRANSPORTATION AND FACILITIES

U. S. Forest Service Documents
Chatham Area Facilities Plan, 1979-1990 (Sitka Office)
Forest Sciences Laboratory Research Brief #11 (Transportation Planning), PNW Forest and Range experiment Station (Sitka Office)
Kadashan Watershed Transportation Analysis (Mitchell, 1976) (Sitka Office)
Log Transfer Site Rating System Report (Petersburg Office)
Road Cards - Road Location and Construction Recommendations and Descriptions (Petersburg Office)
1981-86 Specialist Reports (Sitka and Petersburg Offices)

Oregon Institute of Technology
Road Design Handbook, OIT.

USDA
Logging Road Handbook, #183, USDA

WILDLIFE

Forest Service Documents

Master Memorandum of Understanding Between USDA Forest service (R-10) and the Department of Fish and Game, State of Alaska, October 19, 1978 (Sitka and Petersburg Offices)

Memorandum of Understanding Between the Fish and Wildlife Service (USDA-Alaska) and USDA Forest Service (R-10) concerning eagle nesting sites, October 20, 1978 (Sitka and Petersburg Offices)

1981-86 Specialists Reports and Base Maps (Sitka and Petersburg Offices)

Barrett, R.H.
1979. Admiralty Island Deer Study and the Juneau Unit Timber Sale. Pages 114-132 in J.W. Schoen and O.C. Wallmo (EDS.), Proc. Sitka Black-tailed Deer Conf., U.S. Forest Service, Juneau, Alaska, 231 pp.

Bunnell, F.L.
1979. Deer- Forest Relationships on Northern Vancouver Island. Pages 86-101 in J.W. Schoen and O.C. Wallmo (EDS.). Proc. Sitka Black-Tailed Deer Conf., U.S. Forest Service, Juneau, Alaska. 231 pp.

Herbert, D.M.
1979. Wildlife-Forestry Planning in the Coastal Forests of Vancouver Island. Pages 133-158 in J.W. Schoen and O.C. Wallmon (EDS.), Proc. Sitka Black-Tailed Deer Conf., U.S. Forest Service, Juneau, Alaska 231 pp.

Jones, G.W.
1975. Aspects of the Winter Ecology of Black-Tailed Deer (Odocoileus Hemionus Columbianus Richardson) on Northern Vancouver Island. M.S. thesis, Univ. of British Columbia, Vancouver, B.C. 78 pp.

Leopold, A.S., and R.H. Barrett.
1972. Implications for Wildlife of the 1968 Juneau Unit Timber Sale. University of California, Berkeley.

RECREATION, VISUAL AND CULTURAL

Forest Service Documents

1981-86 Specialist Reports (Sitka and Petersburg)

Visual Management Class Base Map (Petersburg Office)

Recreation and Cultural Resources Base Map (Petersburg Office)

Adopted Visual Quality Objectives Map (Sitka and Petersburg)

Sale Name Freshwater CK.

DESCRIPTION OF UNIT LAYOUT

Designed by ____________________ Date __________

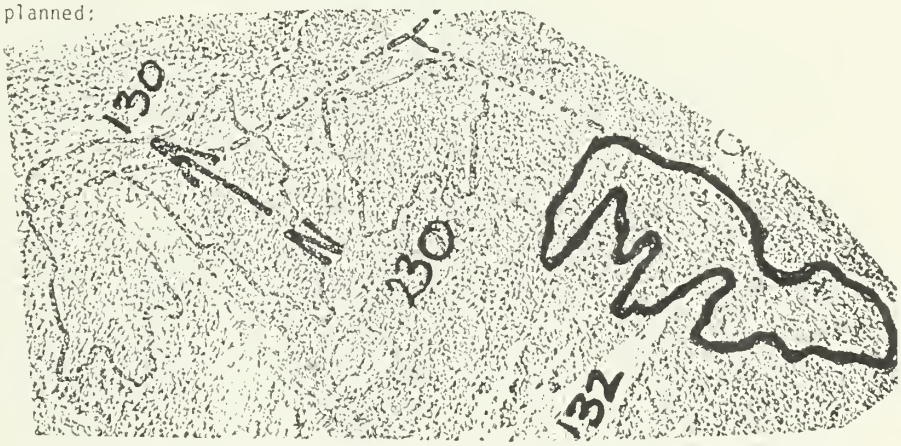
Laid out by ____________________ Date __________

Photo Number 33B-158 Unit Diagrams Unit Number 132

Show: System roads; temporary roads; cutting lines; junction stations; landings; percent slope from cutting line to landing for downhill yarding; uphill yarding; splitlines; streams to be protected; areas requiring special yarding instructions (partial or full suspension, etc.); true north orientation; tie in of traverse lines, skyline profile and number.

SAMPLE

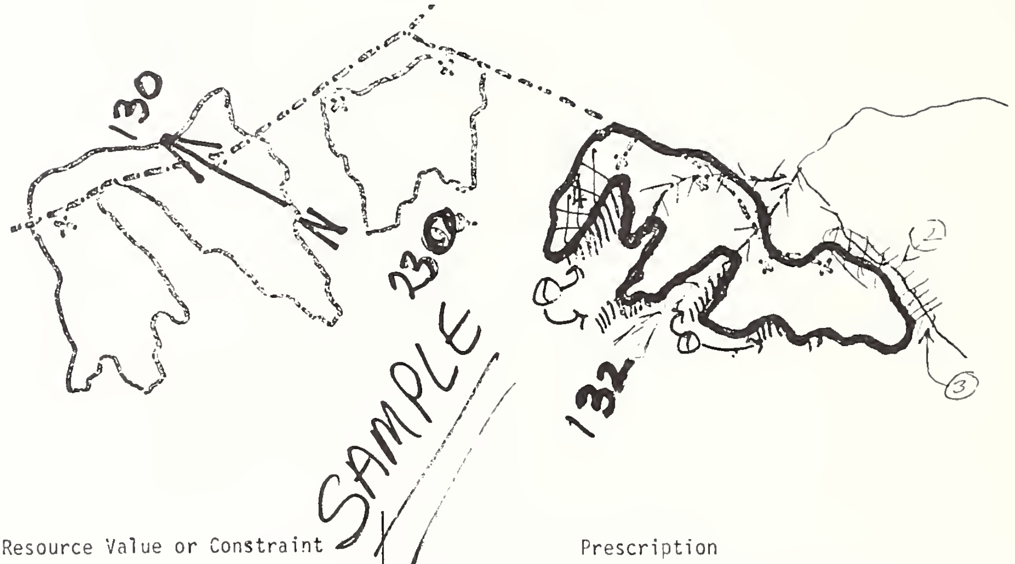
As planned:



As laid out:

Discuss departures from original photo layout:

RESOURCE CONSIDERATIONS



Resource Value or Constraint	Prescription
Watershed/Soils	Protect V-notch in 4. Do not yard down the notch.
Wildlife INT. DEER RANGE DEER MIGRATION ROUTE	MAINTAIN 1000' LEAVE BETWEEN UNITS 30 & 32 TO SERVE AS DEER MIGRATION CORRIDOR. AREA ALONG RIVER AT ③ NEEDS TO BE CHECKED FOR WILDLIFE TRAVEL ROUTES, MAY NEED BUFFER ABOVE RIVER TO SERVE AS WILDLIFE CORRIDOR. LRW 6/
Fisheries & Estuarine RLV 5/31/79 CONCERNS V-notches in unit area ② in which unit is close to river.	V-notches must be protected. SEE S.S. prescriptions Lay out area ② so that no debris will enter river, minimal soil disturbance will occur on the slope and remaining trees are windfirm, as fisheries protection
Visual/Recreation	① Visual leave areas - maintain in final layout. Maintain configuration of unit design as drawn
Cultural/Historical	
Timber Stand Data (biological)	
Silvicultural Prescription	

Logging Systems

V. Appendix

PUBLIC RESPONSES TO ALP 1981-86 DRAFT ENVIRONMENTAL IMPACT STATEMENT

Written responses to the draft environmental statement are reproduced in the following pages. Each letter received by the Forest Service is followed by the Agency's comments or response to specific points in the letter. These responses are identified numerically, corresponding to numbers entered in the margin of the letters.

Written responses included constitute the full record of formal response to the draft environmental impact statement by other agencies, groups, and individuals. They are:

1. Sierra Club Juneau Group
2. Southeast Alaska Conservation Council
3. Alaska Lumber and Pulp Company
4. Katherine Hazard, Auke Bay
5. Huna Totem Native Corporation
6. Eugene Ervine, Sitka
7. Richard Myren, Juneau
8. Dr. Roy Box, Juneau
9. Benjamin Martilotta, Jr., Pennsylvania
10. Joseph W. Geldhof, Juneau
11. Amy Johnson, Sitka
12. U.S. Environmental Protection Agency, Region X
13. Lennen Neuman, Sitka
14. Jane Eidler, Sitka
15. Federation of Western Outdoor Clubs
16. Karl E. Lane, Juneau
17. Mary Jo Groom, Sitka
18. Eleanor Rittmaster, Sitka
19. John Swanson, California
20. USDA Office of EEO, Washington Office
21. Department of the Treasury
22. Dean Williams, Juneau
23. Ralph Wells, Fairbanks
24. David Finkelstein, Anchorage
25. Nicholas P. Mihalow, Fairbanks
26. Russell Heath, Tenakee Springs
27. Grace Heath, Tenakee Springs
28. Donn Groom, Sitka
29. Jack Calvin, Sitka
30. Helen Hooper, Sitka
31. K.V. Koski, Juneau
32. Connie Barlow, Juneau
33. Margaret Beard, Sitka
34. Lance Packer, Sitka
35. Don Muller, Sitka
36. United Fishermen of Alaska
37. Celia M. Hunter, Fairbanks
38. Richard F. Billings, Sitka
39. Department of Housing and Urban Development, Seattle
40. Kurt Hansen, Mt. Edgecumbe
41. Sitka Conservation Society
42. Department of Transportation, U.S. Coast Guard
43. Vicki Converse, Tenakee Springs
44. Jennifer Templin, California
45. Matt Longenbaugh, Sitka
46. Mike Dixon, Douglas
47. Robert Brown, Portland
48. Seine Boat Owners and Operators
49. Ed Grumbine, Montana
50. State of Alaska
51. United Southeast Alaska Gilnetters Association
52. U.S. Department of Commerce-NOAA National Marine Fisheries Service
53. USDI Fish and Wildlife Service
54. Alaska Trollers Association

1

P.O. Box 191
Auke Bay, Alaska 99821
December 14, 1979

Area Supervisor
U.S.D.A. Forest Service
Tongass National Forest-Chatham Area
P.O. Box 1980
Sitka, Alaska 99835

Re: Comments of Juneau Group of the Sierra Club on the Draft Environmental Impact Statement (DEIS) for Alaska Lumber and Pulp Company's 1981-1985 operating period.

Dear Sir or Madam:

The Juneau Group, Sierra Club, has carefully reviewed the DEIS for the 1981-85 operating period of Alaska Lumber and Pulp Company (ALP) and our detailed comments are attached.

We want to take this opportunity to commend those involved in the preparation of the DEIS for the very substantial amount of data presented in its narrative Part 1 and map supplement Part 2. Specifically, the map presentations allow the reviewer to clearly visualize the locations and extent of the proposed timber cutting, road building and associated activities contemplated under the eight alternatives and the Recommended Action. The inclusion on the maps of previously logged areas materially assists in understanding the total impact of logging through 1985.

At the same time, the Juneau Group's previously stated concerns regarding the overcommitment of Southeast Alaska's mature uneven-aged timber stands to logging are hardly assuaged by the map presentations. The proposed 1981-85 Operating Plan relies very heavily on the Chichagof Island and Kuiu Island contingency areas. If one five-year timber harvest plan will result in so much of the contingency areas being committed to logging and road building, the reviewer must necessarily ask what the total effect will be at the end of the fifty-year contract period in the year 2011? Even then, in 2011, only half or less than half of the projected 100-120 year logging rotation period will have passed. What will the end result be in 2061 (or 2081) when, in the present estimation of the Forest Service, the first Alaska Lumber and Pulp areas cut in 1961 are expected to be ready for the second harvest?

We conclude that the answer is that those areas of the Tongass National Forest not reserved from timber cutting by executive order or congressional action will have been irrevocably committed to timber harvest at:

(1) the permanent expense of resource values such as deer and other wildlife species that depend so heavily on the existence of large areas of mature uneven-aged coastal forest; and

(2) the perhaps less permanent expense of other resources, such as visual amenities, which are adversely affected by timber harvesting operations.

The Juneau Group emphatically does not concur with this scenario. We recommend that the Forest Service revise the ALP and LPK long-term contracts to reflect the knowledge respecting logging's adverse impacts and the timber inventory data developed during the initial operating periods of these contracts, so that timber harvest levels appropriate to true multiple-use management can be established.

Augmenting our concerns in this regard are the persistant and increasing indications that the initial Forest Service timber inventory estimates for the Tongass were much too large. We therefore recommend that the final EIS should give full consideration to an additional alternative which would entail the harvest of substantially less volume than the 525 MMBF which serves as the basis for the DEIS.

The Juneau Group also notes with interest and commends the Forest Service for the inclusion in Part 1 of the DEIS of Table 13 on page 60. This table, while lacking back-up data concerning the derivation of the various positive and negative aspects (and more important, any values for the Recommended Alternative), clearly demonstrates that logging does result in a "negative value" (i.e. adverse impact) for most other national forest resources. The logical, but unanswered, question regarding the Table 13 "negative values" is what increases in negative values will result from the second, third and subsequent entries as the rotation period proceeds to completion?

We also think it is important to point out that, while the Tongass Land Management Plan and the Tongass Area Guide repeatedly emphasize that fishery values will not be diminished, yet this DEIS contemplates significant adverse impacts on fishery habitat. We feel this violates the National Forest Management Act, Section 6(1), which mandates that "resource plans and ... contracts ... shall be consistent with the land management plans." Further, we believe that the DEIS should place primary emphasis on protection of this existing resource rather than on rehabilitation and "enhancement" of this resource after it has been damaged by logging.

Finally, the task of reviewing this DEIS was made more difficult by the lack of consistency evident throughout its Part 1. Perhaps this is the inevitable result when different offices (Sitka and Petersburg) and different individuals are responsible for separate narrative sections of the DEIS. However, the maps in Part 2 do not appear to suffer from this infirmity, but rather demonstrate a commendable uniformity regardless of whether prepared from data supplied by the Sitka or Petersburg offices, the IDT or Alaska Lumber and Pulp. Similar treatment for the narrative sections of Part 1 would result in a more cohesive and digestable product.

We trust that the observations and recommendations contained in this letter and the enclosed specific comments will be of assistance to the Forest Service in the preparation of the final EIS. If there are points that need clarification or discussion, please contact:

Ed Huizer
Conservation Committee Chairperson
Juneau Group of the Sierra Club
P.O. Box 191
Auke Bay, Alaska 99821

EH/lw

cc: Elaine Sunde
USFS - Chatham Area

John A. Sandor
Regional Forester

R. Max Peterson
Chief, USFS

SIERRA CLUB JUNEAU GROUP'S COMMENTS ON THE ALP 1981-86 TIMBER SALE OPERATING PLAN

14 December 1979

1. The DEIS does not discuss the fact that the climax forest is a non-renewable resource. The DEIS contemplates the perpetuation of the current practice of converting Southeast Alaska's diversified old-growth forest into a monoculture, without a detailed analysis of the biological, economic and social consequences of this change. The DEIS fails to discuss the impact of the loss of the climax forest on the diversity of plant and animal communities. This violates the requirement of the National Forest Management Act that the Forest Service should provide for diversity of plant and animal communities. The regulations promulgated under this Act direct that species and communities diversity shall be maintained to the extent practicable, and changes in species diversity and composition can be made only where justified by a detailed analysis showing the biological, economic and social consequences of the change. **1**

2. The DEIS fails to discuss adequately the old-growth habitat requirements of fish and wildlife, particularly deer and other mammals. The adverse impacts of logging on deer populations in Southeast Alaska and British Columbia are well documented by recent studies. The DEIS should discuss the application of the findings of these studies to the cumulative impacts of the proposed logging activity over the rotation cycle. **2**

3. The DEIS does not explain what efforts will be undertaken by the USFS to prevent logging where soil, slope, habitat or watershed conditions would be irreversibly damaged, where the forest lands could not be adequately restocked within five years, or where protection could not be provided to nearby bodies of water. The DEIS should set forth specifically what measures will be undertaken to provide this required environmental protection in each of the proposed alternatives*, and how implementation of these measures will be monitored to assure achievement of this objective of the National Forest Management Act. **3**

4. The DEIS fails to consider alternatives which involve the harvest of less volume than the 525 MMbm proposed. The USFS has discretion under its long-term timber sale contract with ALP to reduce the harvest level for this five-year period substantially below the volume proposed. **4**

---

*In these comments, "alternatives" is used in its generic sense, and includes the Recommended Action.

5. The DEIS fails to set forth historical data to support its assumption that a 100 to 120-year rotation period will provide a sustained yield of merchantable timber from the ALP contract sale area. The DEIS fails, for example, to refer the reader to any yield table data for trees of merchantable size, applicable to the site indexes appropriate to this area. The DEIS should set forth such data in explaining how the USFS will ensure that prior to logging the second growth, trees shall generally have reached the culmination of mean annual increment of growth. The manner in which the USFS interprets and applies this requirement of the National Forest Management Act will significantly affect the amount of timber which can be logged annually on a sustained yield basis. 5

6. The DEIS does not disclose nor discuss the extent to which forest land has been and will be permanently removed from timber production due to logging on steep slopes and other unwise forestry practices. The DEIS does not disclose how frequently dense alder regeneration after logging prevents adequate conifer regeneration, thus reducing the forest's ability to produce a sustained yield of timber. 6

7. The DEIS should disclose how many acres will be logged over the entire rotation period, not just during the next five years. This is important because the acreage cut each year will increase as logging moves into areas with less timber volume per acre. The DEIS should disclose whether this will reduce the economic feasibility of logging and increase adverse environmental impacts as the end of the rotation period is approached. 7

8. The USFS should disclose whether it has revised downward its official estimate of harvestable timber within the Tongass National Forest since estimates were originally made in the 1950's. If these estimates have been substantially revised, the public is entitled to know this and to know why the original estimates were inaccurate, in order to evaluate current USFS timber-inventorying practices for similar methodological errors. If the Tongass National Forest has been "high-graded" during the last twenty years, the public is entitled to know why this has been permitted to happen and what effect these practices, if continued, will have on the methods by which the sustained-yield goal will be achieved in the future when logging moves into low-volume stands previously bypassed. The USFS should establish a monitoring system which would permit the public to determine precisely whether sustained-yield policies are being followed. A recent amendment to the USFS Manual requires that the USFS project logging activites for a period equal to one and one-half 8

8 rotation cycles to assure that harvesting levels achieved in the past can be maintained. This amendment also requires that the allowable cut be adjusted downward to the extent that commercial forest lands are withdrawn from logging activity due to land management planning or conveyance of national forest lands to state or private ownership. The DEIS fails to address these requirements, even though a considerable portion of high quality forest lands have been removed from the Tongass National Forest due to native and state selections.

9 9. The DEIS should present a "worst case" analysis of those impacts of the proposed logging and roading which it cannot precisely define or predict due to the present lack of adequate data. This is required under the NEPA regulations recently promulgated by the Council on Environmental Quality, 40 C.F.R. 1402.22(b). It seems that whenever the DEIS discusses uncertain impacts, it presents them in the best light possible, providing the public with a "best case" rather than "worst case" analysis.

10 10. The DEIS states that "90 percent of cutover units in the ALP sale area reproduce naturally", but fails to disclose how quickly and how completely restocking takes place. The DEIS should explain how restocking patterns may increase the time needed for second growth to reach the culmination of mean annual increment of growth, in turn lengthening the rotation cycle and reducing the allowable cut per year.

11 11. The DEIS should disclose the ultimate cutting unit layout now contemplated. It is difficult, if not impossible, to gauge the total impact of a full rotation period and for the 50-year contract period. There should be an accurate map which shows areas of past logging and future logging for the remainder of (1) the contract period and (2) the rotation cycle. The logging road layout which will be adopted in this plan will undoubtedly strongly influence, if not dictate, future cutting unit design in the areas accessed by these roads. The public should be afforded the opportunity to comment on the ultimate layout of cutting units, and such information should be provided in the DEIS.

12 12. The DEIS should consider specific revisions to the ALP long-term timber sale contract, as required by Section 15(b) of the National Forest Management Act, in order to ensure compliance with that Act's resource inventorying, land use planning and habitat protection requirements.

13

13. The DEIS incorrectly states that "a system of priority deferral is impossible once areas have been selected for the operating plan" (p. 6). The contract contains no such restrictions. On the contrary, the contract provides in Section 1(d) that the USFS may, outside of the primary sale area, reserve areas from logging at any time "at will". Most of the logging proposed in this plan is outside the primary sale area.

14

14. The DEIS fails to consider the reasonable alternative of reducing the acreage impacted by logging activity by interpreting the subject long-term timber sale contract to require that utility logs which are harvested be counted against ALP's contractual volume entitlement. Since utility logs comprise approximately 13 percent of the timber volume which will be harvested, their inclusion in the calculation of ALP's volume entitlement will correspondingly reduce the acreage impacted by logging by about 13 percent. The USFS's long-term timber sale contract with Louisiana Pacific-Ketchikan was recently reinterpreted by the Chief of the USFS in this manner. A similar reasonable interpretation of the ALP contract is warranted, in order to reduce the adverse environmental impacts of this contract. The CEQ's NEPA regulations direct the Forest Service to "review [its] policies, procedures and regulations accordingly and revise them as necessary to insure full compliance with the purposes and provisions of [NEPA]." 40 C.F.R. 1500.6. [Emphasis added.]

15

15. The DEIS fails to acknowledge and explain the impact of apparent monopolistic or collusive timber sale bidding practices which have been the subject of correspondence between Dr. Matthew Berman and Regional Forester John A. Sandor. The DEIS should explain what action will be taken to obviate these practices as required by Section 14(3) of the National Forest Management Act, and the effect, if any, of such action on wasteful logging practices.under this operating plan.

16

16. The DEIS does not discuss whether any of the proposed logging plans are consistent with management prescriptions adopted pursuant to the Federal Coastal Zone Management Act of 1972 and the Alaska Coastal Policy Act of 1977, contrary to 40 C.F.R. 1502.16(c) and 16 U.S.C. 1456.

17

17. The DEIS fails to provide any information with respect to how the USFS will satisfy its obligation under the National Forest Management Act to assure optimum utilization of timber resources. For example, the DEIS fails to disclose the volume of merchantable timber which is lost due to log raft break-up and parasite infestation during salt water storage. The DEIS

should consider how these losses might be reduced through barging and dry storage of logs. The DEIS should consider the possibility of storing logs within recent clearcut areas pending their transportation by truck and barge to processing facilities.

18. The DEIS does not disclose how Tongass National Forest Area Guide management standards will be implemented in order to ensure protection of fish, wildlife and scenic resources. **18**

19. The DEIS fails to address how management prescriptions contained in the Tongass Land Management Plan and designed to protect non-timber resources during logging activities will be implemented. **19**

20. The DEIS does not discuss possible improvements in logging practices. Barging and dry land storage (previously mentioned herein) are not planned in the DEIS. The DEIS should discuss the alternative of on-site scaling, and the potential reduction in waste of wood fiber this would yield. **20**

21. According to the DEIS, all critical habitat areas will be logged. Yet the discussions of fish and wildlife resources within these areas are brief and nonspecific. The DEIS should set forth summaries of the reports submitted by the various interdisciplinary teams respecting the impacts of logging on these habitat areas. **21**

22. The DEIS should show on a map the critical habitat areas for wildlife and fisheries, so that the reader can intelligently compare the various proposed alternatives in order to determine which, if any, have the least adverse impact on fish and wildlife resources. **22**

23. The DEIS fails to disclose studies which demonstrate that clearcutting drastically reduces small mammal populations. For example, the USFS completed a nine-year study of small mammal populations on a cut-over plot and a timbered plot in Maybeso Creek Valley near Hollis, Prince of Wales Island, in 1968, which concluded that "during the study period, twice as many animals were captured on the timbered area as on the clearcut area...." The DEIS should discuss the relationship of this finding to the logging activities proposed in each of the alternatives considered. **23**

24. The DEIS fails to disclose the known long-term adverse impacts of the proposed logging on hydrology and fishery resources. It is well documented that drainage networks in the Pacific Northwest reach their minimum size during mid-summer due to evaporation and transpiration from vegetation, in combi- **24** nation with reduced rainfall. G.A. James, "The Physical Effect of Logging on Salmon Streams of Southeast Alaska" (USFS, 1956); F.R. Stephens, "Soil and Watershed Characteristics of Southeast Alaska and Some Western Oregon Drainages (USFS, 1966); R. Dennis Harr, "Forest Practices and Stream Flow in Western Oregon" (USFS, 1976). Stephens found that water loss due to evapotranspiration ranged between 18 and 24 inches per year at sea level in Southeast Alaska, occurring primarily during the summer.

24 Several pioneering studies have demonstrated that evapotranspiration is substantially greater during regrowth following clearcutting than in the old growth forest. A 1960 study by A.A. Molchanov, which was translated in 1963 and sent to the Forest Service by the Juneau Group in 1978 showed that spruce stands aged 60 years consumed 35 percent more water through evapotranspiration than did spruce stands aged 160 years or older. This study reached similar findings with respect to the four other tree species studied. In Pattern and Process in a Forested Ecosystem (1979), F. Herbert Bormann and Gene E. Likens concluded, based on a computer model, that there is a long term depression in stream flow following the initial increase which follows clearcutting. Bormann and Likens determined that this long term depression lasts until the affected forest returns to old growth conditions approximately 200 years following clearcutting. Their computer model therefore confirms the experimental data gathered by Molchanov, demonstrating that advanced second growth reduces stream flow.

Low summer stream flow, therefore, will be even lower during advanced regrowth following clearcutting than in the old growth forest. Low summer stream flows are so well correlated with low coho salmon production as to leave no doubt that this relationship is one of cause and effect. L.S. Pearson, K.R. Conover and R.E. Sams, "Factors Affecting the Natural Rearing of Juvenile Coho Salmon During the Summer Low Flow Season" (Oregon Department of Fish and Wildlife, 65 pages, unpublished, 1967); W.A. Smoker, "Effects of Stream Flow on Silver Salmon Production in Western Washington", (Ph.D. Dissertation, University of Washington, 1955) and "A Preliminary Review of Salmon Fishing Trends on Inner Puget Sound" (Washington Department of Fisheries Research Bulletin No. 2, 1954); G.F. Zilliges, "1974 Puget Sound Coho Run Size Forecast" (Washington Department of Fisheries, 25 pages, unpublished, 1974). Therefore it is clear that clearcutting will result in long-term reduction in coho salmon production. It is obvious from recent and past history that low summer flows adversely impact pink and chum salmon as well. Spawning populations of pink and chum salmon will be adversely affected by decreased stream flow in logged watersheds experiencing increased evapotranspiration during advanced regrowth conditions. The DEIS should discuss these impacts along with other known long-term effects of logging on fish habitat, including changes in nutrient flow and debris energy inflow to streams and estuaries.

25 25. The DEIS does not disclose what special management practices will be employed, particularly within 100 feet of water courses, in order ensure (as required by the National Forest Management Act) that timber will be harvested only where soil, slope or other watershed conditions will not be irreversibly damaged, and where protection is provided for streams and other bodies of water from detrimental changes in water temperatures, blockages of water courses and deposits of sediment, all of which adversely affect fish habitat. In Southeast Alaska, special attention should be given to windfirm buffer strips, but this necessary management prescription is not discussed in the DEIS.

26 26. The DEIS does not examine the value to the commercial fishing industry and to sports fishermen of the fishery habitat, particularly spawning gravels, which will be impaired or destroyed as a result of ~~the~~ logging and road-building activities proposed under each of the alternatives considered, even though such data is available or could be obtained. For example, in 1978 the Kadashan system provided 46 percent of the salmon run for ADF&G District 12. ADF&G escapement records indicate the Kadashan stream system produces pink and chum salmon runs worth an average of $600,000 per year. The value of this stream for coho salmon is also substantial. Another example of a highly productive salmon area is the Game Creek drainage; yet in this plan 51 percent of its FHMU's are to be logged. The DEIS should provide economic analyses to justify its logging proposals, in accordance with Section 6(l) of the National Forest Management Act.

27 27. Comparisons of the relative economic values of the timber in fish habitat management units (FHMU) and fish habitat sensitive zones (FHSZ) with the values of the fish produced by the affected streams over the cutting cycle should be provided in the DEIS, as a basis for consideration of the alternative of reserving such timber from logging under Sections 1(c) and 1(d) of the contract, or purchasing any contract rights ALP may have to this timber.

28 28. The DEIS fails to indicate whether the maps displaying and the text discussing the proposed cutting units reflect changes made in those cutting units after implementation of the 100 acre limitation on cutting units now required under the National Forest Management Act regulations, 36 C.F.R. 219.13(d)(2).

29 29. For each alternative management scheme, the DEIS should discuss the expected changes due to roading, logging, quarrying and other proposed uses, in physical, biological, economic and social conditions including but not limited to 1) soil productivity and plant life; 2) water quantity and quality, flood plains, wetlands and watershed; 3) air quality; 4) recreation opportunities and aesthetic values; 5) fish and wildlife; 6) anticipated diversity of plant and animal communities compared with the diversity existing in the area and with the diversity which might be expected to occur under natural forces unaffected by people; and 7) diversity of tree species in relation to that existing and that expected to occur on surrounding areas of similar soils.

30 30. The Recommended Action presented by the DEIS is merely a conglomeration of other alternatives. The impact matrix (p. 60), which displays the comparative impacts of the various alternatives proposed, does not provide any comparison of the other alternatives with the Recommended Action.

31 31. The DEIS should explain the difference between management prescriptions for areas classified LUD III and those applicable to areas classified LUD IV.

32 32. The DEIS states in the preliminary socioeconomic assessment that the affected communuties will not be capable of absorbing the impacts of the plan. The DEIS does not offer any solutions to the problem, and the plan should not be implemented until solutions to the socioeconomic problems are developed. How will local residents be compensated for the losses in fisheries, wildlife and recreational visitors? How will the communities be protected from overexpansion during the life of the plan?

33 33. The DEIS fails to discuss a study prepared by the USFS in December, 1973 which demonstrates that on typical terrain in Southeast Alaska, slopes in excess of 36° are highly unstable even under the most favorable of natural conditions, and that slopes between 26° and 36° may or may not be stable depending on local variations in basic soil characteristics, soil moisture content and distribution, vegetative cover and slope. The results of this study should be applied to the logging activities proposed in the alternatives considered in the DEIS. The DEIS should include maps showing slope hazard areas so that the reader can determine which, if any, cutting units (including all cutting units over the rotation cycle) are proposed for hazardous slope areas.

34 34. The technical writing in much of this DEIS is so poor as to confuse even the careful reader. The Recommended Action

section is especially difficult to understand. Most tables
lack adequate legends and column headings; some tables are
not even labelled as such (for example, pages 64 and 65), and
some numbered tables are so small and poorly done that they
34 are unintelligible or else require liberal interpretation by
the reader. The second paragraph under Soils in the Recommended
Action section (p. 73) is an outstanding example of such
confused writing.

35. The DEIS fails to propose and evaluate measures to restore
and to rehabilitate renewable resources which have been
35 damaged by past forestry and mining practices in the Tongass
National Forest.

36. It has come to our attention that the Forest Service has
recently learned that its initial calculation of the timber
volume within the proposed cutting units underestimated the
actual volume by approximately 175 MMbm. It would be appropriate, therefore, for the Forest Service to circulate an amended
DEIS addressing alternative proposals for the deletion of
excess cutting units. We recommend that cutting units within
the following areas be deleted: (1) entire Kadashan watershed,
36 (2) Freshwater Creek fish habitat management unit, (3) Game
Creek fish habitat management unit, (4) all fish habitat
sensitivity zones (FHSZs), (5) entire Finger Creek watershed,
(6) all unstable soil areas where logging activity may impair
fish habitat values, (7) Port Camden watershed (VCU 420), (8)
Three Mile Arm watershed (VCU 419), (9) Salt Lagoon watershed
(VCU 418), and (10) cutting units proposed in wildlife habitat
areas of special importance, such as, in addition to areas
previously mentioned, Whitestone Harbor, Suntaheen (VCU 209),
Tenakee Inlet, Salt Lake Bay (VCU 202), Kelp Bay, Portage Arm
(VCU 296), and Kuiu Island, No Name Bay (VCU 417).

37. Alternatives 4 - 7, which involve two very different cutting
patterns and six distinct areas, are inappropriately lumped
37 together as having the same resource impacts.

38. The DEIS fails to set forth a systematic scheme for monitoring
and evaluating the management practices proposed in the operating
plan, as required by the regulations promulgated pursuant to
the National Forest Management Act, 36 C.F.R. 219.5(k). In
accordance with these regulations, the DEIS should develop a
38 monitoring and evaluation program which describes (1) the actions,
effects or resources to be measured, and the frequency of measurements; (2) the expected precision and reliability of the monitoring process; and (3) the timetable for reporting evaluations.

39. The DEIS states at page 70 that "Considerably more volume may
39 be taken if the 1968 blowdown timber [in the Corner Bay Manage-

ment Area] is salvagable", but fails to disclose any estimate
39 of what volume may be harvested in this area and what actions
will be undertaken to recover this timber.

40. The DEIS fails to disclose the process by which 51 units totaling
about 2,789 acres (or almost ten percent of the total acreage
to be harvested) were added to the proposal following reduction
in cutting unit size to satisfy National Forest Management Act
requirements. For example, the DEIS does not reveal which, if
40 any, of these units have been evaluated by an interdisciplinary
team. Such evaluation is essential because of the imprecise and
tentative nature of the reconnaisance level data which was
initially developed for this planning process.

41. The DEIS states at pages 32-33 that the volume estimates contained in this plan are based upon the "operable volume identified by the Tongass Land Management Plan", but fails to disclose
41 the extent to which on-the-ground surveys have verified the accuracy of the TLMP volume estimates.

42. The DEIS does not discuss ALP's long-standing failure to comply
with air quality standards with sufficient detail to provide a
basis for the reviewer to evaluate how this problem might be
resolved. For example, the DEIS fails to disclose that in excess of 60 percent by weight of the particulate matter emitted
42 by ALP's pulp mill operation are salts absorbed by logs during
transport and storage in salt water. The DEIS should evaluate
whether dry land storage of logs might bring the pulp mill into
compliance with particulate emission standards.

43. The DEIS repeatedly states that the proposed logging roads will
provide a benefit to recreationists, but fails to disclose that
the roads will actually access a large wasteland of logging
43 debris and slash. The DEIS' claims that this enhances recreational opportunities is not supported by any data.

44. The DEIS does not address a significant source of adverse environmental impacts associated with logging: accidental pollution
incidents. Past experience with severe road slides, quarry
washouts and similar mishaps should be discussed, and measures
calculated to reduce their occurrence in the future evaluated.
44 Extremely hazardous areas within the plan area should be mapped,
in order to permit comparison with the proposed cutting unit
layout.

45. The DEIS fails to disclose any specific information respecting
retention zones. These areas should be mapped to provide a
monitoring and planning mechanism to ensure that cutting units
45 do not intrude upon these zones. The function of the zones should
be indicated, so that their effectiveness can be evaluated subsequently.

46 46. The DEIS fails to identify what mitigation measures will be employed if the Visual Quality Objectives, particularly that of Maximum Modification, are exceeded. Moreover, the DEIS does not display any criteria against which the proposed cutting units can be evaluated in order to determine whether the VQOs will be met. The DEIS should provide the reader with maps which display the recommended and the adopted Visual Quality Objectives.

Response to Letter 1
(Juneau Group of the Sierra Club)

In reply to your concern about the total effect at the end of the 50-year contract period in the year 2011, the Forest Service, along with Alaska Lumber and Pulp Company, will be preparing a "life of the sale plan". Although this plan will in all likelihood not identify specific cutting units, it should go a long way in providing information that both you and we would like to have.

In your letter you also requested that the Forest Service revise the ALP and LPK long-term contracts. The National Forest Management Act of 1976 validated the long-term contracts in Alaska and directed that in developing five-year action plans, the Secretary of Agriculture was "to revise such contracts to make them consistent with the guidelines and standards provided for in the Forest and Rangeland Renewable Resources Planning Act of 1974 as amended and to reflect such revisions in the contract price of timber."

This has been done in the preparation of the 81-86 EIS and the contract will be amended to include required changes.

We share your concern about the timber inventory. The timber resource is reinventoried on a scheduled basis in the Tongass National Forest. The reinventory of the Chatham Area is beginning this year and should be completed within three years. At that time, we will have a better idea of the potential yield on the Chatham Area.

Efforts are being made throughout the entire planning for the 81-86 operating plan to minimize the impact on fisheries and other resources. This is consistent with the National Forest Management Act, and other acts regarding National Forest management. It is important to draw a distinction between long-term adverse impacts and short-term adverse impacts. All of our activities are designed to minimize the short-term adverse impacts, and eliminate as far as possible any long-term adverse impacts. Putting a bridge over salmon streams might be an example. During the construction of the bridge, there is some adverse impact on the stream. However, the bridge structure is so designed and planned that once it is in, the long-term adverse impact is extremely minimal.

We agree that the DEIS would have been handier to review and more easily understood had the Chatham Area and Stikine Area been exactly alike; however, the conditions and knowledge of each Area were different so the interdisciplinary team on each area addressed the opportunities and difficulties in a different manner. In the final EIS, we have attempted to increase the amount of consistency. See also our discussion to Letter 2, response 3.

The following comments speak to your point-by-point statements regarding the DEIS. They are numbered in the same order that your comments are numbered.

1. The thesis that "the fact that a climax forest is a non-renewable resource" is still being tested. As presently planned, the DEIS, and final EIS provides for diversity of plant and animal communities, therefore not violating this requirement of the National Forest Management Act. Many of your concerns under this item have been previously addressed in the Tongass Land Management Plan.

2. The old growth habitat requirements of fish and wildlife are adequately documented elsewhere; we felt no need to redocument them in the EIS. After we have completed the "life of the sale study" mentioned earlier, we will be in a better position to assess accumulative impacts of proposed logging activities over the term of the timber sale. See also Letter 37, response 4.

3. Areas with steep slopes, soil or watershed problems, will be investigated by a soil or watershed scientist before they are released for logging. If, in their estimation, it would result in irreversible damage to the site, they will not be logged. All of the cutover lands will meet the restocking requirement, and protection will be provided to nearby bodies of water. On the Chatham Area, the "best management practices" are embodied in the Chatham Area Guidelines. These Guidelines are followed on the ground, and where they must be exceeded or when questions arise, the necessary specialists are called out on the ground. These specialists review the proposed action and help decide whether or not it should be continued or perhaps modified. This type of activity is monitored through the normal inspection process. See also Letter 2, responses 2 and 10.

4. The Forest Service does not have the authority to reduce the harvest level below that required by the contract. See also Letter 4, response 1.

5. The problem was addressed during the development of the Tongass Land Management plan. The proposed action for the 81-86 portion of ALP falls within the Tongass Land Management Plan Guidelines.

6. The Draft Environmental Statement and the Final Environmental Statement do not propose any "unwise forestry practices." As discussed earlier, our soil and water specialists help determine where logging may or may not be done on steep slopes. From past experience we know what conditions lead to alder take-over of an area and also how to avoid it. Where dense over-regeneration of alder after logging prevents immediate conifer regeneration, the area will be planted and released to assure immediate regeneration.

7. The life of the sale plan mentioned earlier, will help answer questions you raised. See also Letter 15, responses 3 and 7.

8. The timber inventory previously mentioned will help answer the questions you raised. Timber cut reports, etc., are all public information; these could be compared with the annual allowable cut to see whether sustained yield policies are being followed. The remainder of your questions under #8 were discussed during the development of the Tongass Land Management Plan, and will not be repeated here.

9. The DEIS and FEIS present the case as we "envision it to happen." As is required (44 CFR 1952.48C) the "worst case" analysis is made where such information is essential to a reasoned choice among alternatives. We feel adequate information is required to make a reasoned choice.

10. The 90% of the land that reproduces naturally restocks within the five years. The remaining 10% is stocked, by planting, within three years of the regeneration survey.

11. Although not ready at this time, the "life of the sale study" will help answer most of these concerns.

12. This has been covered previously in the first page of this letter.

13. We have used a system of deferrals in working up the final environmental statement. If the necessary timber cannot be found in the identified units additional units will be added by the serial system to fulfill the contract commitment. This type of deferral is now possible, because the on-the-ground timber cruise produced a statistically sound volume estimate which overran our original estimate.

14. The LPK and ALP contracts are significantly different when it comes to utility logs. In the LPK contract, "utility material"

was part of the required portion of the contract and a part of the total contract commitment. The ALP sale, on the other hand, had no such requirement in its original form. As such, it is not a matter of a "reinterpretation of the Chief," or a "judge's decision," it is a case of enforcing the original intent of the contract. We have no authority to reinterpret the ALP contract to include utility logs as part of the 50-year commitment.

15. We fail to see how this item applies to the ALP sale.

16. A consistency statement is found in the Final Environmental Statement.

17. Although log raft breakup and loss of fiber because of marine borers is of concern, we do not know the total volume involved. From the point of interest, the logs that are lost because of log raft breakup or the volume that is lost because of marine borers, is counted against the 50-year commitment. No additional timber is permitted to be cut because of these losses. See also Letter 2, response 6.

18. On the Chatham portion of the 81-86 area, the Chatham Area Guidelines will be utilized to implement the Area guide. Where specialists input is required, it will be obtained before the timber is laid out. On the Stikine Area, the timber is already laid out and has received on-the-ground interdisciplinary input where necessary.

19. Management prescriptions contained in the Tongass Land Management Plan are being followed and have been incorporated in the Environmental Statement. See also Letter 2, responses 2 and 10.

20. Although the DEIS does not discuss possible improvements in logging practices as such, certain logging practice improvements are required during the 81-86 period. As an example, sky line logging is required during the 81-86 period. This will result in being able to reach timber which heretofore was unreachable within environmental contraints, thereby increasing the volume of timber per road mile. Although barging and dry land storage are not required in the 81-86 area, they are not prevented and at least in the case of dry land storage, will be done in several areas. In addition, Alaska Lumber and Pulp Company is looking into the possibility of chipping their wood on site, and transporting the chips to the mill by barge.

The Environmental Statement has a paragraph regarding log accountability; however on site scaling, as you suggest, would not result in a reduction of waste of wood fiber. As mentioned previously, the timber that is lost through marine bore damage or lost in transit, is charged for and the amount included in the total commitment for the 50-year sale. Scaling on site will not change this.

21. The DEIS does not say that all critical habitat areas will be logged. The Final Enviromental Statement expands on the effect on fish and wildlife.

22. This information was not included in the DEIS, but is available in the Stikine and Chatham Area offices.

23. There is no question but that clearcutting impacts wildlife. Certain species of animals are displaced during clearcutting; other species are increased. For instance, some bird species requiring old growth timber stands are displaced; other bird species requiring early stages of succession move into clearcut areas and increase in number. The same is true of certain mammals.

24. Your concern can better be expressed in a research study or in major land management plans rather than a limited plan such as the 81-86 EIS. The concerns you express reflect management in general and, within the constraints of TLMP and other planning processes, have been considered.

25. Generally, activities within 100 feet of water courses require soil and water specialist input before they may be permitted.
We agree that special attention must be given to windfirm buffer strips in Southeast Alaska. However, based on on-the-ground examinations, there are instances where better management can be achieved by cutting up to the stream edge, thereby avoiding any possibility of blowdown into the stream. Instances such as this require an on-the-ground investigation and recommendation by soil and water specialists. We feel that it would be better management to address each problem on a case by case basis, rather than manage by a "cook book" style of management such as requiring

buffer strips along every stream, as you propose. See also Letter 15, response 10.

26. The value of the commercial fishing industry and the sport fishing industry were considered in preparing the DEIS. As described under your item #26, you are taking the position that we can have either timber or fish. Our position is that we can have both. Operations are planned to minimize adverse impacts on fish during the short run, and virtually eliminate adverse impacts on the long run.

Escapement figures are a poor indication of habitat, according to the our fishery biologists. Escapement figures are an indication of how the fishery is managed, not how the habitat is managed. If the fishery is managed the same as it has been in the past, there is no indication that logging as proposed will change the escapement figures.

In revising the Final Environmental Statement, many of the fish habitat management units have been deferred to the point of being eliminated from proposed logging this 5-year period.

27. Again, in effect, you are stating that we can have timber or fish, not both; our contention is that we can manage both.

28. The maps reflected the 100 acre unit changes.

29. The DEIS adequately expressed these concerns.

30. It is true that the recommended alternative consisted of parts of all of the other alternatives. However, we felt that no one alternative was best; therefore, a combination of alternatives was designed as the recommended action. This process was carried into the deferral system for the FEIS. The recommended action in the draft was modified to make it a better alternative. The table which appeared on page 60 of the DEIS has been dropped in the final EIS. It was entirely subjective in nature and had no supporting data.

31. The Tongass Land Management Plan documents adequately explain the difference between management prescriptions for areas classified LUD III and those classified LUD IV.

32. We are unable to verify your contention that "the DEIS states in the preliminary socio-economic assessment, that the affected communities will not be capable of absorbing the impacts of the plan." Effect on the communities was definitely considered. As an example, one of the reasons for the level of proposed harvest adjacent to the Hoonah road system, was to avoid a "boom and bust" situation. In the Final Environmental Statement, this level is established at 151 MMbf for the 5-year period. This will result in a more even flow of timber to Hoonah over the next ten or fifteen years, rather than a big impact during 81-86, with a relatively small impact during 86-91.

We disagree with your implication that there will be an automatic loss in fisheries, wildlife and recreational visitors as a result of timber harvest in any of the areas.

33. As mentioned in earlier replies, steep and/or unstable slopes will be examined on the ground. These slopes have been identified and eliminated as far as they can be through photo-interpretation. Additional on-the-ground input is needed before decisions can be made regarding the remainder of the areas. This on-the-ground input will result in reducing units and parts of units from that proposed on the photos. As a point of reference, during the field season of 1979, about 15% of the planned harvest areas on the Chatham Area were eliminated or changed due to problems with slope and soil and water. See also Letter 12, response 1.

34. Technical writing is often difficult reading. We have attempted to clarify it in the final EIS.

35. Rehabilitation of renewable resources damaged by natural or manmade causes is a constant program on the Tongass National Forest. It is documented in Regional policy statements, guidelines, and direction.

36. The following are comments concerning your proposals for reductions in cutting units:

(1) - Entire Kadashan Watershed - Kadashan was allocated to LUD III which permits timber management. In fact, the Tongass Land Management Plan gives very specific direction regarding logging in Kadashan. It specifically states :

> Major activity emphasis in the future will be timber harvest and road access construction. A road may be built through the upper drainage during ALP 76-81, and 81-86 operating periods to access timber in other management areas and to utilize the logging camp at Corner Bay. Connecting the Sitkoh Bay-False Island road systems with the Corner Bay System would facilitate future resource management needs. Timber may be harvested from the area in the ALP 81-86 period in connection with the road development, and in the ALP 86-91 period. Recognizing concerns expressed by various communities, Alaska Department of Fish and Game and others, timber harvest and related road location and construction will be carried out in accordance with the following general guidelines and procedures:
>
> 1. No roads or timber harvest will be allowed within one-eighth mile of the estuarine tideflat of Kadashan Bay.
>
> 2. No roads or bridges will be allowed along or across the Kadshan River in the lower one mile upstream from the general line where the grassflats meet the timber.
>
> 3. No timber harvest or roading will be allowed within one-eighth mile of either river bank along this lower one mile reach of the Kadashan River. These guidelines will be provided to an interdisciplinary team who will conduct a field inventory and analysis before a final recommendation is implemented. Upstream from these zones, resource protection measures as described in the Chatham Area Project Guidelines for wildlife, Sec. 1110, Alluvial Area, Sec. 1120, Stream and Shorelines Encroachment, Sec. 1130, and Stream Crossings, Sec. 1140, and those resource protection measures applicable as written in the Southeast Alaska Area guide will be strictly adhered to. In addition, Kadashan is a barometer watershed. The Forest Service has been collecting data from it for years looking toward a study comparing a normally logged watershed with a control area in the same watershed.

In light of the above, we have decided to defer logging in Kadashan this 5-year period and to intensify point specific data collection for the next three years (1981-83). Pre-roading will occur in Kadashan in 1984-85. During this 5-year period, we will also be designing special timber harvest techniques for subsequent 5-year periods in Kadashan.

(2) - Freshwater Creek Fish Habitat Management Units -Some of these have been removed; the remainder will have an on-the-ground review prior to releasing them for logging.

(3) - Game Creek Fish Habitat Unit - Some of these have been removed, the remainder will require an on-the-ground review.

(4) - All fish habitat sensitivity zones - some of these have been removed, some will require further on-the-ground review.

(5) - Entire Finger Creek Watershed - several units on the lower portion of Finger Creek were deferred to help maintain winter deer cover.

(6) - All unstable areas where logging activities may impair fish habitat values - as mentioned previously all questionable areas will be reviewed by soil and water specialists prior to the decision on whether or not to release them for cutting.

(7) - All proposed timber harvest units in the Port Camden VCU will be deferred provided that timber volume estimates derived from the latest cruise prove to be correct and additional volume is not required to meet contract obligations.

(8) - Most units on the north side of Three Mile VCU will be deferred provided that timber volume estimates derived from the latest cruise prove to be correct and additional volume is not required to meet contract obligations.

(9) - The trunk road will be built and proposed timber harvest units in the Salt Lagoon Area will be harvested during the ALP 81-86 Operating Period. It is the belief of the IDT that this activity can be accomplished with proper consideration of environmental issues.

(10) - Units of high environmental sensitivity in Whitestone Harbor, Suntaheen, Tenakee Inlet, Salt Lake Bay, Kelp Bay, Portage Arm, and No Name Bay (Kuiu Island) have been deferred to later entries.

37. Your comments with respect to log transfer sites on East Kuiu are acknowledged and are incorporated into the FEIS.

Please note that the Forest Service preferred alternative does not now require the Port Camden LTS. This represents the major change from the recommended action on East Kuiu presented in the DEIS.

As you recall, both ALP's Alternative 8 with respect to East Kuiu and the Stikine Area Alternative 4 were affected by the N.F.M.A. regulations regarding clearcut unit size limitations.

Units that deviated from these limitations on East Kuiu have been corrected or deferred until such time as regional guidelines are developed defining the process for exceeding limits where IDT analyses deems it necessary to protect resource values (e.g. conforming to windfirm cutting boundaries).

Your comments regarding the limitations of relying on aerial photo layouts are appreciated. Since the DEIS was distributed for review, all units on East Kuiu Island have had on-the-ground IDT review including adherence to logging engineering principals and guidelines.

In all cases, problems identified on the ground have been corrected and cost allowances recommended for inclusion in the rate redetermination appraisal.

38. Planned monitoring is discussed in the FEIS.

39. The estimates available at the time of the preparation of the DEIS were the best estimates available at that time. Since then, a cruise has been performed giving us a more reliable estimate of the timber available to Corner Bay (Trap Bay). However, a question remains as to how good the 1968 blow down is. If ALP could log the Trap Bay area early in the 5-year period, there may be more of the blow down still merchantable then if it is logged at the end of the 5-year period. The timber was blown down more than 11 years ago. ALP will be required to harvest all of the timber that remains merchantable. At this point, we are unable to make an estimate of how much that will be.

40. The same team that designed the remainder of the cutting units, designed those which resulted from changes in the 100-acre regulation.

41. The accuracy of TLMP volume estimates have not been verified at this time. However, as mentioned previously, the Chatham Area is starting a timber inventory this year which will result in better data than TLMP estimates.

42. We are unable to comment on this. These matters are between Alaska Lumber and Pulp Co. and the State of Alaska. We had not previously been informed of the data you present and will be evaluating it in connection with future timber sale activity.

43. See Letters 15 (response 21) and 40 (response 3).

44. The environmental statement expresses effects as they are likely to occur under the management proposed. This is neither the best

picture nor the worst picture. Some instances will occur which are better than we project; there will be some failures. This has been taken into account in designing the proposed plan. Where failures occur, needed rehabilitation measures will be taken. As mentioned previously, much of this work that you propose needs to be done on the ground. We have gone as far as we can with photo interpretation to eliminate hazardous areas. Additional work requires on the ground review which will be done prior to releasing the units for logging.

45. Retention zones, in concert with TLMP, were considered in designing the 81-86 preferred alternative. Retentions, as envisioned by TLMP, were not exceeded.

46. As presently planned, none of the units will exceed maximum modification. We have clarified the FEIS where VQOs are discussed. As a point of interest, the VQOs presented in the Final EIS are presently considered to be "recommended" even though they have been agreed upon through the IDT planning process. They will become "adopted" upon approval of the Final EIS.

Southeast Alaska Conservation Council, Inc.
BOX 1692
JUNEAU, ALASKA 99802 907-586-6942
SEACC

2

December 15, 1979

Area Supervisor
USDA Forest Service
Tongass NF -- Chatham Area
Box 1980
Sitka, Alaska 99835

Dear Area Supervisor,

The Southeast Alaska Conservation Council has reviewed the Draft Environmental Impact Statement for the 1981-86 ALP Timber Sale Operating Plan. The Forest Service deserves to be complimented for providing useful maps which not only display the proposed roads and cutting units, but which also illustrate existing roads and cut over areas. The Forest Service should also be complimented for acknowledging at several points in the DEIS that the proposed roading and logging will be detrimental to fish and wildlife resources.

SEACC believes that the impacts to the fish, wildlife and other non-
1 timber resources of the Tongass are much more complex and severe than
indicated in the DEIS, though we are pleased with your acknoledgement
that the clearcut logging and the extensive roading in the Proposed
Action will be harmful to other forest resources. With regards to
these issues, the DEIS fails to explain how the Forest Service will
2 resolve the conflict between the environmental damage inflicted on
the forest by ALP's 1981-86 logging plan and the assurances provided
to the public through the Southeast Alaska Area Guide and the Tongass
Land Management Plan that logging and roading will not be allowed to
"diminish" other forest resources, including fish and wildlife populations.

Though the maps demonstrated reasonable consistency between the Chatham
3 and Stikine Areas, the inconsistencies in Part 1 of the 1981-86 Plan
made it difficult for the public to analize and understand the various
alternatives and the Proposed Action. Numerous charts and tables, for
example, explained the environmental impacts of the alternatives in
the Chatham area often by watershed units. Similar information was
not available in the same format for the different alternatives proposed
in the Stikine Area. Also, we were quite surprised to note that the
4 Proposed Action was not analized in the same manner as the various
alternatives and a significant amount of information about the environmental impacts of the Proposed Action was not provided in the DEIS.

5 Existing legislative mandates provide for the conservation, protection, and utilization of all forest resources. The Forest Service cannot comply with its legislative mandates and continue to meet its long term contractual committments to supply timber. Recent research demonstrates that the preservation of the old growth forest ecosystems of the Tongass will be essential if all of this forest's resources are to be maintained and protected. Additionally, a significant amount Tongass National Forest lands have been transferred to private ownership or have been withdrawn from timber harvest. As a result of the new information conerning the impacts of logging in the Tongass, changes in public policy and new patterns of land ownership and use, the Forest Service should insist on renegotiating the volume and the duration of its 50-year timber sale contract committment to supply ALP with timber.

6 SEACC also calls on the Forest Service to review and replace its existing policies on log storage and transfer. Ample evidence exists to demonstrate that logs stored in water damage the estuarine environment. In addition, the loss of wood fiber due to marine organisms and log raft breakup violates the National Forest Management Act's call for improving the utilization of wood fiber produced from national forest lands. Improved utilization standards will also result in decreasing the amount of logging and roading required on Tongass National Forest lands. We urge you to require dry land storage and barge transportation for all timber logged on national forest lands.

7 Recently we have been advised that the ALP 1981-86 Plan underestimated the volume of timber on the units displayed in the Proposed Action by approximately 175 million board feet. Furthermore, utility logs should also be counted against ALP's contractual entitlement. These factors combined with the need to renegotiate the contract, provides the Forest Service with ample opportunity to delete areas from the Proposed Action.

8 On Chichagof Island, SEACC urges you to defer logging on lands within the Kadashan Creek watershed. The value of Kadashan for fish, wildlife, and waterfowl far exceeds the value of the area for timber production.

9 On Kuiu Island, SEACC urges you to defer logging on the eastern portion of the Island between Port Camden and Reid Bay. The Port Camden, Three Mile Arm, and Salt Lagoon watersheds appear to be most valuable for their fish and wildlife resources. The Alvin Bay watershed also contains important fish producing streams. Alternatives to a comprehensive road system on Kuiu Island should be explored, as should alternatives to logging on lands adjacent to the proposed Tebenkof Bay wilderness.

10 "Fish Habitat Sensitivity Zones" and "Fish Habitat Management Units" should also be deleted from the proposed logging plans, particularly in the Game Creek and Freshwater Bay watersheds. Key deer winter range areas and areas with unstable soils should be deleted as well as units in the Finger Creek drainage. 11 Lastly, the 1981-86 logging plan should be designed so that the construction of new roads will be minimized as much as possible, consistent with the protection of other forest resources.

Thank you for this opportunity to offer our comments on ALP's 1981-86 Timber Sale Operating Plan. Additional and more specific comments are enclosed along with these more general observations. Please feel free to contact us for further information.

Sincerely,

Leonard Steinberg

Leonard Steinberg
Executive Director

SEACC ATTACHED AND
ENDORSED The Sierra
Club Juneau Group's
Comments (See Preceding
letter).

cc: Elaine Sunde
USFS -- Chatham Area

John Sandor
Regional Forestor

Max Peterson
Chief, USFS

Response To Letter [illegible]
(Southeast Alaska Conservation Council)

1. The EIS, combined with Specialist Reports, provides a thorough analysis of anticipated and potential effects on all resources. This includes both beneficial and adverse effects, long and short-term effects, and other considerations as required in the environmental assessment process. Where detrimental effects have been determined, procedures to monitor and to mitigate impacts are set forth.

2. In most cases potential conflict between proposed management activities and Area Guide policies are resolved during the planning process by the interdisciplinary team. In some cases, further ground investigation is needed. In other cases, Area Guide policies are appropriately applied during implementation phases, rather than earlier planning phases. All such instances, requiring further interdisciplinary review or specialist involvement, are identified in the planning document. An additional measure to assure that implemented activity meets Area Guide policies is established best management practices. On the Chatham Area, these are specified in the Project Guidelines.

Personnel with responsibility for implementation of the plan are further directed by field forms which are prepared for all areas included in the plan. (Sample field forms are contained in the Appendix). The field form specifies particular management direction from the interdisciplinary team and identifies areas needing further review during layout. Every harvest unit and proposed road section is addressed by an individual field form. It is the responsibility of the timber sale administrator to obtain the specified specialist review at the appropriate time before implementation and to ascertain that the Area Guide and best management practices are applied. All field forms are on file and available for public review.

3. Differences in the areas included in the plan have resulted in some necessary variations in the processes followed by the two areas to develop this plan. For example, because the Stikine team was concerned with only one management area, it was possible to complete most field review prior to preparation of the DEIS; the Chatham team, dealing with seven management areas, relied on both field review and aerial photo interpretation to develop the Recommended Action and other alternatives presented in the DEIS. Because field investigation was complete on the Stikine portion of the plan (East Kuiu Management Area), most of the potential effects discussed in Chatham Area charts and tables had already been filtered out of the proposal.

Discussion of the planning process has been expanded and, hopefully, clarified in the FEIS. We would stress that these processes are, when completed, essentially identical. The standards governing the planning process, development of a preferred alternative, and implementation of the plan are also the same.

4. Adjustments in the FEIS are intended to make it easier for the reader to recognize the parallel elements in each presentation.

5. The TLMP process was based upon a high level of public involvement, inventory and analysis and is considered fully adequate for allocative level planning. TLMP allocation provides for the conservation, protection and utilization of all forest resources, including the timber resource. It also provides for necessary volume to meet the long term contractual commitment. As the chart on page 5 of this FEIS indicates, a very significant amount of old growth forest on the Tongass is retained under TLMP. Withdrawals and transfer to private ownership were recognized at the time allocation was made in TLMP. See also letters 1 (response 4) and 4 (response 1).

6. Dry land storage and barging of all timber is a mixed blessing. It is true that such activity would result in less impact on the marine environment, however it is more expensive (two to three times as expensive) and may impact deer winter range. There are times when recent clearcuts can be used for dry land storage, however even then the road right-of-

way between the storage area and the log dump must be cut wider (up to 100' wide) to accommodate movement of log bundles. This wide right-of-way may hinder deer movement in their winter areas. The tradeoffs basically are the marine environment vs. deer winter range.

We expect that we will continue to see more dry land storage of logs and increased barging (probably chips); however, in light of the tradeoffs that would have to be made. It is unlikely we will see marine log storage and transfer totally eliminated.

7. The LPK and ALP contracts are significantly different when it comes to utility logs. In the LPK contract, "utility material." was part of the required portion of the contract and a part of the total contract commitment. The ALP sale, on the other hand, had no such requirement in its original form. As such, it is not a matter of a "reinterpretation of the Chief," or a "judge's decision," it is a case of enforcing the original intent of the contract. We have no authority to reinterpret the ALP contract to include utility logs as part of the 5-year commitment.

The National Forest Management Act of 1976 validated the long term contracts in Alaska and directed that in developing five-year action plans, the Secretary of Agriculture was ". . . to revise such contracts to make them consistent with the guidelines and standards provided for in the Forest and Rangeland Renewable Resource Planning Act of 1974 as amended and to reflect such revisions in the contract price of timber."

This has been done in the preparation of the 81-86 EIS and the contract will be amended to include required changes.

8. We disagree that we cannot have timber and fish and wildlife. We believe we can have and manage all of these resources in Kadashan. See also letters 1 (response 36), 26 (response 1), 46 (response 2) and 50 (response 30).

9. The TLMP process was based upon a high level of public involvement and inventory and analysis that was considered fully adequate for allocative level planning. There was therefore, no reason to consider deferral of timber harvest activity on Kuiu Island and specifically the East Kuiu Management Area. The value of the fish and wildlife resources are recognized and the IDT developed timber harvest schemes that responded to levels of protection prescribed in TLMP and the Southeast Alaska Guide.

Alternatives to an interconnected road system on Kuiu Island were explored in Alternatives 6 and 7 which concentrated proposed roading and timber harvest activity in the northern portion of the East Kuiu management area. These alternatives were not selected because they would not provide a system trunk road which the Forest Service considers to be an important tool for the efficient and effective management of all forest resources. Alternatives 6 and 7 also concentrated timber harvest activities in a more confined area which, although it did not require harvest of more than an acceptable first entry (approximately 30-40% of the operable Commercial Forest Land) tended to have more of an initial impact on other forest resources than Alternative 4 and 5 which spread harvest and roading activity out over a larger area. The alternative of disconnected road systems was not explored because it would have required multiple log transfer sites with associated camps which would have been in direct conflict with stated concerns of the Alaska Department of Fish and Game, National Marine Fisheries Service and U.S. Fish and Wildlife Service relative to any additional camps and multiple log transfer sites. Disconnected systems would also have made effective and efficient sale administration and resource management difficult to achieve.

Wilderness boundaries are established in such a way that adequate protection from activities outside the boundaries will be provided. The proposed Tebenkof wilderness is comprised of 4 VCUs the land boundaries of which are drainage "breaks" which in most cases, provide topographic barriers. It has not been Forest Service Policy to provide additional "buffer" zones outside wilderness boundaries.

10. Fish habitat sensitivity zones were given highest consideration in our unit deferral evaluation.

Key deer winter range was a principal value in identifying areas for retention as alternatives were being developed. This interdisciplinary team recognizes, of course, that not all old growth timber is available for harvest even when it is within an area allocated for timber harvest entry. Should additional areas be identified during subsequent field review and layout which are considered by wildlife biologists to be critical deer winter range, adjustments will be made to exclude this habitat. See also Letter 37, response 8.
Soil conditions were an important aspect of the planning process also. Areas which remain in the plan may include some unstable soils. These will be subject to field review and will either be excluded from the plan or managed to minimize risk, upon the recommendation of a soil scientist. See also letters 1 (responses 3 and 33) and 12 (response 1).

Deletions were made at the front of the Finger Creek drainage in response to recommendations from wildlife biologists with the Forest Service and the Alaska Department of Fish and Game (see Preferred Alternative map in Part II).

11. It is important that readers recognize the relationship of roading to objectives of the planning team for protection of resources. In general terms, a timber sale proposal may concentrate logging in specified areas and reduce the need to construct new roads or it can disperse logging over a larger area and increase the need for road construction. There are decided advantages and disadvantages to each general approach. Concentrated logging reduces the cost (both economic and environmental) associated with new roads but may pose greater adverse effects associated with concentrated cutting units, e.g., reduced wildlife habitat and travel corridors, greater visual impacts. Dispersed logging is considered to minimize adverse effects from cutting units by allowing greater habitat diversity, more extensive travel corridors, and other beneficial results, but requires greater roading with attendant costs. The interdisciplinary team has attempted to balance the two approaches in the Preferred Alternative.

2a

Southeast Alaska Conservation Council
BOX 1692, JUNEAU, ALASKA 99802 907-586-6942

SEACC

LYNN CANAL CONSERVATION
Haines Alaska

JUNEAU GROUP SIERRA CLUB
Juneau Alaska

SITKA GROUP SIERRA CLUB
Sitka, Alaska

PETERSBURG CONSERVATION SOCIETY
Petersburg Alaska

SITKA CONSERVATION SOCIETY
Sitka Alaska

STIKINE CONSERVATION SOCIETY
Wrangell, Alaska

RECEIVED
FEB 4

Forest Sup
Admin Ofcr
Planning
Timber
RL
Engineer
Watershed
Wildlife
Yak W. C.
Jun W. C.

January 30, 1980

John Sandor, Regional Forester
U. S. Forest Service
Box 1628
Juneau, Alaska 99802

Dear Mr. Sandor:

On Friday, January 25, 1980, Cheryl Easterwood and I attended a meeting in the Forest Service Regional Office with Mike Barton, Ray Clark and Dale Heigh. We initiated the meeting in order to receive some clarification and state our concerns regarding recent developments in the preparation of the final EIS for the ALP 1981-86 Timber Sale Operating Plan. We found the meeting to be most helpful, and we are appreciative of the Regional Office's time spent discussing these issues.

As you are aware, SEACC studied the ALP 1981-86 Draft EIS in detail, and submitted lengthy comments to the Area Supervisor. Since that time, we have been watching the development of the new recommended action which will reflect the excess timber volumes found in the timber cruise. It appears that the Chatham Area Office will be forwarding to the Regional Office a unique sort of plan--one which includes units to meet the contractual requirement and then additional prioritized units which total some 200 MMbm of timber in excess of the 5 year plan's goal of 525 MMbm.

SEACC went to the Regional Office in an effort to determine why this unique approach was being adopted at this time. We learned that

TAKU CHAPTER ACS
Juneau Alaska

TONGASS
CONSERVATION
SOCIETY
Ketchikan Alaska

the Regional Office has confidence in the timber cruise data. Therefore, the primary justification for including the extra areas in the final EIS appears to be to provide the Forest Service with flexibility in advance roading options. As we now understand it, the recommended action will include a prioritized list of areas not needed for logging but available if insufficient timber is found in the primary areas, and will allow for the pre-roading of areas not needed for timber harvest in the 1981-86 period.

1 Advance roading constitutes a committment to harvest, and largely forecloses future non-timber harvest use possibilities. Such actions are the appropriate subject of an environmental statement allowing public comment and review. The inclusion of these "extra" areas for possible advance roading at this time following the public comment period represents a substantial change in the recommended action, and appears to circumvent the planning process as required by the National Forest Management Act. Therefore, while SEACC is supportive of long-range planning efforts, we are adamantly opposed to the approach developed for the ALP 1981-86 plan.

2 SEACC continues to be concerned about the inclusion of the Kadashan watershed in this plan. To the best of our knowledge, the Chatham Area is classifying Kadashan a "priority #2 area", meaning that it will be amongst the first areas to be entered, if any deferred areas are logged or roaded. Current plans call for Kadashan being made available for harvest at a reduced level if the Corner Bay camp cannot find sufficient timber in Trap Bay, carry over, and potential blow-down volumes. The Corner Bay camp appears to be the only camp singled out for such a management technique. SEACC believes that the objective of maintaining a temporary logging camp in perpetuity is not a valid criteria for optimum resource protection and forest management, and we object to the emphasis we see being placed on one logging camp's timber volume requirements to insure a long-term existence.

3 Since the future of areas included in the list of prioritized volume deferrals is, at best, highly uncertain, SEACC can only assume that these areas will be subjected to pre-roading or logging activities. Our opposition to the logging of Kadashan is well documented, as is that of the State of Alaska, National Marine Fisheries Service, fishermen's groups and others. We continue to urge the Forest Service to delete Kadashan entirely from any recommended action contained in the final Environmental Impact Statement. Moreover, the EIS covering ALP's 1981-86 logging plan should not include any areas or actions which are not needed to satisfy the Forest Service's contractual committment in the next five years.

4 CEQ guidelines state that agencies shall prepare a supplement to an Environmental Impact Statement if the draft is so inadequate as to preclude meaningful analysis (as in the obvious case of the Stikine portion of the ALP DEIS) or if:

1. The agency makes substantial changes in the recommended action which are relevant to environmental concerns; or

2. If there are signigicant new circumstances or information bearing on the proposed action.

After reviewing the present situation, we believe the CEQ guidelines to be herein applicable. We urge the Forest Service to issue a supplemental draft to allow for full public participation before advancing to the Final Environmental Impact Statement.

5 We hope you will agree with us that the EIS for ALP's 1981-86 Operating Plan should be limited to covering those areas which ALP will log in the next five years. We strongly urge the Forest Service to issue a new Draft EIS which addresses the new circumstances and information bearing on the proposed action. If pre-roading is to occur in ALP's area, it is properly the subject of intensive advance planning, a full public participation process, and a separate Environmental Impact Statement.

Please keep us informed on the Forest Service's decisions regarding ALP's 1981-86 Operating Plan. We would be happy to meet with you to discuss our concerns in more detail.

Sincerely,

Leonard Steinberg

Leonard Steinberg, Executive Director
Southeast Alaska Conservation Council

cc: Chatham Area Supervisor

John Butruille, Forest Supervisor
Stikine Area

Max Peterson, Chief
U. S. Forest Service

Chairperson
Council on Evironmental Quality

Response to Letter 2A
(Southeast Alaska Conservation Council)

1. We are sorry for your opposition. We, however, feel that the DEIS declared an intent to road and harvest in the same areas and with the same road systems that pre-roading is proposed. And that since no "extra" areas are being entered that a substantial change has not occurred.

2. Timber harvest in Kadashan has been deferred from the 81-86 operating period, but pre-roading will occur. The maintenance of a active logging camp can be a valid criteria when one considers the cost of clearing and then reestablishing it, the social-economic effects to the village of Tenakee, the probability of timber harvest from Kadashan in the future and the capabilities it would provide for salvage harvesting. See also letters 1 (response 3), 26 (response 1), 46 (response 2) and 50 (response 30).

3. The FEIS clearly states our decision on Kadashan.

4. After discussion with SEACC representatives and considerable consultation with Forest Service personnel it was the Regional Forester's decision that a supplement to the draft EIS was not required.

It is our belief that the draft EIS is adequate in light of the fact that the Tongass Land Management Plan has provided allocative direction.

5. See our response to numbers 1 and 4.

3

ALASKA LUMBER & PULP CO., INC.
P O BOX 1050 · SITKA, ALASKA 99835 · (907) 747-2265

November 21, 1979

Mr. Richard Wilson	Mr. John Butrelle
Forest Supervisor	Forest Supervisor
Chatham Area	Tongass National Forest
U.S. Forest Service	U.S. Forest Service
P.O. Box 1980	P.O. Box 309
Sitka, AK 99835	Petersburg, AK 99833

Gentlemen:

Enclosed is the Alaska Lumber and Pulp Company response to the USDA Forest Service draft publication, "The ALP 1981-86 Timber Sale Operating Plan, Draft Environmental Impact Statement for the Chatham and Stikine Areas of the Tongass National Forest with Alaska Lumber and Pulp Company." Part 1 and Part 2.

Alaska Lumber and Pulp Company appreciates having the opportunity to respond to the document and urges the Forest Service to carefully consider the comments contained within our response.

Very truly yours,

ALASKA LUMBER AND PULP COMPANY, INC.

Peter M. Huberth

Peter M. Huberth
Resources Coordinator

PMH:sm
encl.

Response to the Draft Environmental Impact Statement

I. Introduction

Alaska Lumber & Pulp Company, Inc. (ALP) appreciates the hard work of the planning teams of the Chatham and Stikine areas in preparing the Draft Of the Environmental Impact Statement (DEIS) for ALP's 1981-86 Timber Sale Operating Plan. We disagree with the underlying decision regarding the harvest plan for certain of the areas. However, we do applaud the approach of combining all eight of the alternatives presented in the draft as a compromise attempt to obtain the best possible result in terms of commodity and amenity values. We believe that the DEIS adequately describes the impacts of the Recommended Action upon the affected environment.

The purpose of our response is severalfold: (1) to point out the impacts which the Recommended Action will have from both an environmental and economic standpoint; (2) to clarify certain impacts which need further explanation; and (3) to explain why the Recommended Action should be modified with respect to certain areas.

It is organized in to three major sections: (1) first we discuss the issue areas raised by the DEIS; (2) then we make an extensive area by area analysis of the Recommended Action; and (3) finally, we provide a page by page critique of certain matters in the DEIS.

II. Major Issues and Concerns

"Major Issues and Concerns" are addressed at page 6 and 7 of the DEIS. While we believe that the issues mentioned are legally sufficient, we believe that this section can be strengthened by adding three new issues.

1 First, the major issue and indeed the purpose of this DEIS is to meet the requirements of ALP's long term contract. This involves not only volume commitment, but also certain procedural and other substantive requirements by both parties. Accordingly, this is a major issue of concern which should be before the decision maker. It would also be useful if the manner in which the contract protects environmental values (particularly Sections 7d-7h) was discussed in each resource section.

Secondly, the decision maker should consider regional employment concerns. We recognize that the social and economic needs of individual communities is considered. However, the Southeast Region is a cohesive economic unit which will be impacted by this plan as a region. Accordingly, the social and economic needs of the region should be considered.

2 Third, a major issue and concern should be the well-being and lifestyle of those who live in the logging communities. It is unfortunate that none of the camps which will be involved in the 1981-1986 operating plan was contacted by the Forest Service to obtain their point of view. Their lifestyle and well-being is no less deserving of protection than that of residents of other communities.

The Recommended Action should synopsize how these issues were addressed and resolved. In that way, the public will be able to relate any Recommended Action to the major issue faced.

III. Capability and Suitability

3 The capability and suitability issue is addressed at page 8 of the DEIS. This section should be strengthened by a discussion of the factors set forth in "Forest Planning Actions" under 36 CFR Sec. 219.12(b). The public has a right to know whether or not the requirements of these regulations have been met by the Recommended Action.

IV. Planning Alternatives and Recommendations

A. Decision Criteria

Certain decision criteria for the planning process are discussed at page 30 of the DEIS. While the discussion is adequate, it would be useful to provide a fuller list for the plan. Accordingly, we would suggest that additional criteria be added.

4 First, the Recommended Action should provide the needed volume at the rate of 2MMBF per mile of road in order to obtain a positive appraisal for this timber. As a result of our activities in the D-2 process, we are not at all convinced that the additional $11.7 million dollars per year needed by regions to obtain a potential yield of 450MMBF is going to be made available. The Recommended Action requires $2.6 million dollars per year. There is no apparent contingency plan should this money not be forthcoming. When one considers that Congress has not budgeted the Forest Service sufficiently to achieve the outputs described in the 1975 Resource Planning Act Program, it is manifest that relying on additional monies is risky. Accordingly, it

should be a goal to achieve a positive stumpage. (It is ALP's position that should an actual appraisal deficit occur, it would violate its contract.)

5 The Recommended Action should be tested on an area by area basis to determine which areas do not meet the 2MMBF/mile goal.

6 Second, to the extent they are used, skyline units should be designed to be adequate in size configuration, deflection and location. The reason for elevating this to a decision criteria is because the use of skyline equipment should help to achieve greater volumes with lesser road distance. However, these machines are expensive and it is, therefore important that the skyline units be large enough to make their use worthwhile and positioned so that skyline equipment would ~~not~~ be appropriately utilized.

7 Third, the Recommended Action should meet the management standards and guidelines of 36 CFR Sec. 219.13. In this regard, the public and decision makers should be made aware that ALP's contract is being modified to meet these requirements.

B. Description of Alternatives

8 In our judgment, while the discussion of alternatives found on pages 32-35 of the DEIS is legally sufficient, it could be better presented to fully inform the public and decision makers. In the first place, the public is not explicitly told that because the total contract volume of 525MMBF is to be made up from the Chatham and Stikine areas that one of the alternatives 1 through 3 must be combined with one of the alternatives 4 through 7 to understand how the volume commitment is going to be met. We submit that some of the combinations of alternatives 1 through 3 with alternatives 4 through 7 are not viable because of cost. We say this without knowing for certain because no cost are presented in connection with alternatives 4 through 7. We have extracted these costs by examination of other parts of the DEIS. We think this cost information for Alternatives 4-7 should be presented. The decision maker and public should also be advised as to which of the possible combinations of alternatives 1 through 3 and 4 through 7 is feasible from an economic point of view and indeed in accordance with the decision criteria set forth at page 30. Other such combinations should be discarded at this time as nonviable alternatives.

Below is a table which we have devised to compare investment costs by alternative mix and to show road mileage to remaining volume for each possible combination.

Alternative Mix	Investment Cost ($ million)	Road Miles	Remaining Volume (MMbm)
1 + 4	1	283	1319
1 + 5	1	284	1319
1 + 6	0	271	1319
1 + 7	0	273	1319
2 + 4	14	371	1673
2 + 5	14	372	1673
2 + 6	13	359	1673

2 + 7	13	361	1673
3 + 4	26	461	2150
3 + 5	26	462	2150
3 + 6	25	449	2150
3 + 7	25	451	2150
8*	4	310	1328

*Alternative 8 requires 59 miles less road than the Recommended Action.

9 Secondly, we are greatly troubled by the presentation of Alternative 8. It is described as ALP's proposal and indeed it is the proposal submitted by ALP to the Forest Service. However, Section 7(a)(2) through 7(a)(5) of ALP's contract contemplates a procedure by which ALP initiates the process by presenting a plan after which the Forest Service helps perfect that plan in accordance with its management standards and guidelines. In this case, the Forest Service began the planning process on its own. ALP presented its own alternative in aid of that process in what it considered to be its contractual obligation and to offer its perspective, especially as it pertains to plan feasibility. However, the Forest Service has chosen not to perfect the ALP proposal and thereby make it a Forest Service alternative. ALP has no intention of having our proposal, which is demonstrably superior economically to the other proposals and in the ball park from an environmental point of view, treated as a straw man by the Forest Service. To the extent there are environmental deficiencies in Alternative 8, they are in part due to the Forest Service's failure to follow the contract's Section 7(a)(4) procedure.

10 That aside, it would seem that the Forest Service could have at least made sufficient modifications to "ALP's" proposal to make it comparable to the other alternatives. To do this it would have been necessary for the Forest Service to reduce the volume from 554MMBF to 525MMBF. Secondly, it would be necessary for the Forest Service to divide ALP's approach into an East Kuiu Management Area alternative and a Chatham Forest Area alternative. Costs then should have been allocated to each area. These would have been simple things to do. Only in this way could the decision maker and public compare what ALP was suggesting with the Recommended Action. We have made these changes for use in the FEIS.

C. Effects of Implementation Which Are Similar in Alternatives 1 Through 3

11 For openers, we believe that a number of these effects also occur in Alternative 8 and thus it should also have been included in the discussion which begins on page 36 of the DEIS.

12 First, the silviculture section found on page 37 should justify the use of clear cutting as a harvest method. The DEIS simply assumes that it will be the method. Section 6g(3)(F) of the National Forest Management Act of

1976 requires a determination that clear cutting is the optium harvest method. The reason for the use of clear cutting should be spelled out.

13 Secondly, stream crossings, culvert installations and bridge installations are major opportunities for sediment to reach water. In fact the opportunity is greater in this regard than it is with respect to other features of road building or unit harvest. However, this matter is not separately discussed in the soil or fisheries sections found at pages 36-39 of the DEIS. Moreover, a comparison of the number of each alternative's crossing of the same stream is not listed on any of the tables. We believe that numerous crossings of the same stream should be avoided to the extent practical. This should be an important factor in deciding which alternative to select.

14 We believe that a number of statements regarding water resources found on page 36 are incorrect. First, it is our understanding that suspended sediment is rarely harmful and that scientific studies to date have shown such a large variation of results, that a definition of the letnal limits is not possible. Bed load sediments on the other hand can smother salmon bed eggs and fry in the gravel and greatly reduce a streams food resources for the fish (Gibbons and Selo, 1973).

15 Third, it is our understanding that water temperature increases in the North Tongass may actually help fish. That aside, it was our understanding that dispersion of harvesting such that sufficient shading is left along streams has eliminated this problem. Has there been a problem with higher stream temperature due to timber harvesting during ALP's 1976-1981 Operating Plan? If so, where and what were the circumstances? If not, the decision maker and public should also be informed.

In discussing water, we believe there should be a fuller discussion of the seasonal variations in water quantity. Are there lower flows during the Summer months? If so, in which months and what is the impact? Is clear cutting in aid of increased water flows during these months? What role does trans-evaporation play with respect to the water quantity issue? All of these matters need to be discussed.

D. Effective Implementation on Alternative by Alternative Basis

16 This section commences on pages 41-58 and is followed up by an overall evaluation of the alternatives at pages 59-62. The method of analysis is excellent and is certainly capable of providing the needed site specific information to decision makers. However, we feel that it has been misapplied with respect to Alternative 8 Table 13 on page 60 gives Alternative 8 a lower rating than any of the others for timber management, wildlife, fish, visual and semi-primitive land based recreation. We challenge these judgments.

We believe that Alternative 8 should have received a + 4 for timber management. It is superior to any other in: leave areas available for re-entry, restocking of harvest areas, utilization of high site land for subsequent management, logical and manageable harvest units, and reduced blow-down potential.

Alternative 8 provides for reasonable widths of timber between projected harvest units. This will result in economical units being available for subsequent re-entry at later dates. Generally, the leave areas for which Alternative 8 provides will allow upwards of 1,000 feet between harvest units. The timber manager can efficiently review the leave areas in the field and make analytical judgments which will promote continued efficiency of management.

Alternative 8 pays close attention to the restocking of harvest areas by deleting unmerchantable timber from harvest units in higher elevations and elsewhere. Also, a large amount of merchantable timber was left in leave areas. The result is that practically all of the harvest units in Alternative 8 are surrounded by seed producing species which will produce more than a sufficient amount of seed to fully stock the harvested areas. Additionally, Alternative 8 provides logical cutting boundaries and units of sufficient size that potential mistletoe infection of new seedlings will be substantially reduced.

Alternative 8 identified high site lands for harvest. The result is that much of the more fertile land in each drainage will be converted from stagnant old growth conditions to vigorous second growth stands. These stands will produce fiber more rapidly and be available for future harvest at earlier dates than timber on those areas designated for harvest on low site lands which is the case in a number of the areas in the Recommended Action.

Alternative 8 was carefully designed to provide for logical and manageable harvest units to allow the timber manager to take advantage of economies of scale by having units which can be easily reviewed for silviculture requirements in a timely fashion. Fingers of timber do not intrude into harvest units. Harvest units are of a size which will assist in keeping the timber manager from having difficulty in finding boundaries. Intensive management practices such as pre-commercial thinning and brush control will be easier to implement.

Finally, based on extensive experience and observation of conditions in Southeast Alaska, Alternative 8 pays particular attention to designing harvest units which would reduce the potential of blow down in subsequent years. Fingers of timber protruding into clear cut areas and cutting lines which offer a jagged forest edge to winds will tend to promote blow down of timber. The Recommended Action includes numerous areas which are highly susceptible to future windthrow. On steeper slopes, such windthrow may promote the potential for mass wasting because large stumps are no longer available to hold the upper soil horizons. Additionally, salvage operations are very difficult when the best tailhold trees have blown down, forcing one to use small stumps or other alternatives.

The final published presentation "A Presentation to the Logging Systems Workshop on Minimizing Windthrow as a Result of Logging," by Bob Burke, dated February 12, 1979 should be utilized to a much greater extent in the planning process to reduce the potential of windthrow. More attention should have been paid to past windthrow patterns in selected harvest areas. More care should have been taken in determining cutting lines on the windward side of the clear cuts, in saddles, and V-notches. A special case was made by Mr. Burke regarding irregularities in cutting lines that are parallel to the wind. Certainly, there are many such conditions in the Recommended Action. Finally, Mr. Burke recommended that forest areas that are to be managed for timber harvesting be organized in a way whereby the process of cutting will be against the wind so as to deflect more windfirm second growth. It is recommended that in the FEIS clear emphasis be placed on these points.

A further example of the Recommended Action not paying close attention to minimization of windthrow is addressed to page 73, Section b, Silviculture. The DEIS states, "reduced unit size adds risk to successful achievement of windfirm boundaries." Additionally, the DEIS further states that site index as an indication of soil productivity is believed to be reduced by approximately 20 units as a result of windthrow. 17 However, the actual layout of the Recommended Action ignores these statements in the DEIS. This situation is obvious at Trap Bay among other areas. The many irregularly shaped harvest units in the Recommended Action have far more boundary exposed to potential windthrow than the units in Alternative 8. Therefore, Alternative 8 is superior to any other regarding timber management. The U. S. Forest Service should recognize the superiority of Alternative 8 and assign to it a higher value than any other alternative including the Recommended Action.

Nor do we understand why we ended up with a - 3 for fisheries. A comparison of the statistics of Alternatives 2 and 8 on Table 18 found on page 77 of the DEIS shows that they are basically the same even though they are rated differently. Both harvest 10% in the fish habitat sensitive zone (FHZU). Alternative 2 cuts both sides of the stream for a total of 12.2 kilometers, whereas, Alternative 8 cuts both sides of the streams a total of only 3.8 kilometers. Alternative 8 consciously avoided logging both sides of streams as this is one of the most important factors in reducing sediment. On the other hand, Alternative 2 has 20 kilometers less stream to be cut on one or both sides.

If one assumes that Alternative 2 would be combined with Alternative 6, one would have 361 miles of road for only 479MMBF volume, whereas, Alternative 8 achieves 554MMBF with only 310 miles of road. This difference of road miles would increase if one reduced Alternative 8 to a volume of 525MMBF to obtain an "apples to apples" 18 comparison. At page 38, paragraph 5, column 1 on fisheries the DEIS states:

> "The number of drainage structures and the potential for impacts is approximately proportional to the length of road within a watershed."

Accordingly, Alternative 8 is clearly superior to Alternative 2 from a fisheries point of view in this regard.

Even comparing the two alternatives statistic by statistic under the present "apples to oranges" approach of the Forest Service one sees a similar pattern: in some cases Alternative 8 is better than Alternative 2 and in other cases the reverse is true. However, the numbers are close enough that the notion of assigning a different value to Alternative 2 than to Alternative 8 for fish does not seem appropriate or fair.

Alternative 8 also received a - 4 for visual. However, the shape of our units protects against dwarf mistletoe infestation and blowdown. In subsequent entries, when there is a greater mix of stands the more regular shaped units will blend easily with the landscape. Moreover, they will provide texture and color in the visual setting. Thus, in terms of long range impacts, it would appear that Alternative 8 is more likely to prevent unsightly dwarfed and diseased trees or blowdown trees or an untextured, colorless landscape than the other alternatives. In the short run, we recognize that there is no such thing as a beautiful clear cut. Accordingly, if we are simply looking at this in the short term, all of the proposals should get a - 4.

Alternative 8 receives a - 4 for wildlife. Arguably this is because it is a thesis throughout the DEIS as we see on page 48 that: "dispersing small units over a larger area allowing for many small entries in the future spreads the timber harvesting out in time and space . . . such an interspersion of different aged vegetation provides better habitat diversity which is a general measure of the overall quality of the habitat." More explanation is needed as to why this is true in areas where multiple entries are planned. Our understanding of present thinking is that the loss of the old growth timber is what makes the habitat unattractive for deer. Accordingly, if there are multiple entries during the same rotation period then the impact on deer is merely deferred not eliminated.

The statement is made (page 45, paragraph c) that "Smaller units expose more area for (sic) blowdown." In paragraph d, however, an inferred advantage to wildlife is the "irregular shape of units with fingers of 'leave' vegetation that extend into the units." This results in "a greater mix of vegetative types (and, therefore, habitat)." But on page 37 the statement appears that "many of the species (wildlife) in Southeast Alaska are most (emphasis added) adapted to old growth spruce-hemlock stands. Converting these stands to second growth generally reduces the habitat productivity for these wildlife species." An apparent contradiction seems to arise when, on the one hand, we are told how important old growth timber is while, on the other hand, we are informed that habitat is increased by creating more "edge." What we really need to know is whether or not this type of "edge" habitat is really critical, necessary or even attractive to important game species. The discussion on page 37 indicates that, at least for deer, it is not.

It can be concluded from this that, at least in some cases, creating a diversity of "edge" habitat by decreasing unit size and adding "fingers" may not accomplish the desired effect of encouraging wildlife. If the "fingers" are more subject to windthrow, then units having boundaries tailored in such a fashion could readily loose any "edge" benefits. Additionally, blowdown is not readily passable by deer to any large extent so habitat impairment can be twofold.

It can certainly be argued that, in some cases, impacts to wildlife may be less when units are somewhat larger, designed to be wind firm and include leave strips large enough to provide wildlife corridors and preserve as much critical habitat as possible.

It would appear, from inspection of the accompanying maps, that many units in Alternative 8 may accomplish the above goals more consistently than the Recommended Action, especially in the Whitestone Management Area, Trap Bay, Salt Bay and Finger Creek.

The discussion of "edge" continues with proposed units for Alternative 3 being irregular in shape and having a high perimeter to area ratio to create the "most" edge.

We understand that sunlight stimulates growth of shrubs and other forage species under the standing timber surrounding a clearcut, much as it does in uncut old growth stands where small patches of windthrown timber temporarily opens the forest canopy, but there is some question as to the actual value of these edge areas, at least for deer. Leopold and Barrett found them to be heavily used (i.e., numerous tracks) and cited Vaccinium (blueberry) as an important winter forage species. The crude protein content of Vaccinium ovalifolium (blue huckleberry) was highest under the mature canopy some 200 feet from the forest edge in a study by Billings and Wheeler (in Sitka Black-tailed Deer, Proceedings of a Conference in Juneau, Alaska, USDA, 1979).

On page 43, column 2, "Interspersion of different aged vegetation provides better habitat diversity which is a general measure of the overall quality of the habitat." This generally accepted wildlife management axiom may not always hold true for deer or other species of wildlife adapted to the climax spruce-hemlock forest of Southeast Alaska. Much more work needs to be done on optimum size, shape and intervening distance between cut units in Southeast Alaska with regard to minimizing impacts on all wildlife species.

We are at a period in research on this problem where we do not know as much as we will know after several more years of concentrated research effort. Accordingly, it would seem that impacting as few areas as possible while waiting to obtain that knowledge is in the interest of the deer. Accordingly, it would seem that as regards deer for rating purposes, the first criteria would be to see which alternative impacts the fewest areas. This would seem to allow better and more informed manipulation of units later on. In this regard, Alternative 8 is certainly superior to Alternative 3 which opens up many more areas, but which received a minus one.

If, as is stated on page 56, Alternative 8 was judged by comparing it with other alternatives for only four drainage areas (Suntaheen, Salt Lake Bay, Trap Bay, and Gartina), the examination of the maps indicates that only at Trap Bay do the two alternatives (recommended action and Alternative 8) appear markedly different with Alternative 8 involving the removal of significantly more volume. Accordingly, how can it be said that Alternative 8 has a high potential for adverse affects on wildlife?

Finally, it would seem that the relative impact assessments on page 60, Table 13, should show the Recommended Action, so we have some basis of comparison.

V. Recommended Action

A. Economic Analysis

19 While it is important to use a benefits cost study to review alternatives, it should be pointed out that the National Forest Management Act of 1976 does not require a favorable benefit cost ratio. Readers should be advised that a break even point for a benefit cost ratio is 1.00. To determine why it is that none of the alternatives for Chatham District, Alternative 8, or the Recommended Action have a value of 1.0, we should apply a benefit cost formula to each of the areas within each alternative. This would then allow us to determine which areas or management regimes are the least efficient.

20 Additionally, at the bottom of page 63, an asterisk footnote states: "Although not displayed here, 12 combinations of Chatham/Stikine alternatives are possible and can be assessed by combining the displayed data." ALP contends that this is a very incorrect method of using such values. Statistically such analysis must be done by referring to raw data in order to arrive at comparable benefit/cost ratios. The inference that Table 14 "Benefit/Cost Ratios of

Alternatives and Recommended Action*" has data which is additive is not correct. Table 14 needs better explanation and this section needs strengthening.

21 The Recommended Action will cost $2.6 million dollars per year. This amount should be broken down to show where the money will go so the public will know how the money will be spent and can make recommendations with respect thereto.

22 B. Cutting Unit Size

Page 64 explains that in response to the proposed National Forest Management Act Regulations, 35 of the 38 units that exceeded 100 acres were reduced. The criteria which were used for this reduction in the regulations was not explained to the decision maker. These same criteria would allow the units to be returned to their former size in the FEIS. We would suggest that increasing the size of units be carefully reviewed in the FEIS preferred alternative since to do so would provide a higher benefit cost ratio and possibly allow an increase in the number of units available for skyline logging.

The criteria for creating larger units is set forth in 36 CFR Sec. 219.13(d)(2)(i), (ii) and (iii). Particularly pertinent here are (i) and (ii). The first (i) sets forth criteria under which size exceptions may be granted. The second allows the size limits to be exceeded on an individual timber sale basis after 60 days public notice and review by the Regional Forester. It is our opinion that either one of these two exceptions would provide authority to deviate from the 100-acre clear cut limit, particularly since to do so might result in a greater timber usage within the units. Most efforts to increase volumes per mile of road and opportunities for fuller utilization of conventional and skyline equipment would have a very salutatory effect on the economics of this five year period. Furthermore, merchantable timber taken from the higher ground might have less impact on fish and wildlife than timber taken elsewhere. Accordingly, there is a strong argument for dramatically increasing unit size because the benefits of exceeding 100 acre plus units will exceed the cost (both economic and environmental).

23 The reader is not told what the average unit size of the Recommended Action is. This information should be included. Nor is there any discussion in the DEIS regarding the environmental impacts of reduction. Will it cause an increase in dwarf mistletoe? Will it cause an increase in blowdown? Will it decrease utilization? What is the actual impact on deer in those areas where multiple entries are planned during the same rotation period?

C. Area by Area Analysis of the Layout and Environmental Impacts for Recommended Action

Whitestone Management Area - Iyouktug Creek

A review of the photo layout undertaken by the Forest Service indicates the following concerns:

Cutting unit boundaries are not efficient for units 46 and 49. In both of these units the corners are configured in a manner whereby cable systems will not be able to reach unless the boundaries are modified due to excessive curves and indentations. Backlines should be smoothed to reduce continued blow down and allow equipment to reach designated timber. Units must be carefully designed by taking all wind exposed timber.

ALP's review indicates that cutting unit 63 has backlines in non-commercial timber which means that tailholds probably do not exist for cable logging. The backlines may have to be brought down to assure tailholds.

It is felt that units 60, 64, and to a lesser extent, 61a, are too small and uneconomic for harvest. It is recommended that the units either be expanded or alternative volume be added elsewhere.

ALP's analysis indicates that merchantable timber is left beyond the backlines of some units to the extent that it will be impossible to harvest that timber at later dates without building excessive distances of road through land that has already been logged. These units inlcude 56, 57, 58 and 59. In addition, unit 56 has some cutting lines so close to the road as to require only the harvesting of a minor fringe on each side of the road as opposed to taking a logical unit. It is recommended that cutting lines be expanded to include areas of merchantable timber which could otherwise be isolated.

It is recommended that the Forest Service consider the above observations and integrate or give stronger consideration to the harvest units recommended in Alternative 8 where these units are more logical in size, will result in more efficient forest management in the future and leave good areas for future harvest. In addition, the units allow for adequate protection of fisheries and give appropriate consideration to game management in a LUD IV designated area such as this.

Whitestone Management Area - Suntaheen

A review of the photo layout undertaken by the Forest Service shows the following:

Alternative 8 allows for more regular cutting boundaries than the boundaries designated in the Forest Service Recommended Action. Cutting units with boundaries which will result in excessive negative effects from wind damage and potential mistletoe infection include 3, 13, 13a, 14, 7, 21, 22, 24, 25, 32, 32a, 34, 36, 37, 38 and 43. Backlines need to be smoothed out and mistletoe indications should be checked when final boundaries are laid out for appraisal purposes.

Several units appear to have skyline distances which exceed 2,000 feet in slope distance. These include 7, 12 and 14. Cutting lines should be reduced in distance to conform to 2,000 feet slope distance, or less where tailholds do not exist.

In harvest unit 27 it appears as though some skyline will be required square to the hill. This type of requirement usually results in inadequate deflections for cable yarding. Deflections must be checked prior to establishing backlines for appraisal purposes. Also, the road can be extended to reduce yarding distance.

In units 5, 6, 14, 17, 21 and 22 some merchantable timber will be left up hill and behind the cutting boundaries so designated. In the future it will not be feasible to harvest this timber without yarding across dead ground or through reproduction. These areas should be included in order to smooth out lines and reduce potential for isolated patches of merchantable timber.

The following units have backlines which go substantially into non-merchantable timber: units 4, 7, 14, 21, 22 and 30 are some. In addition, units 7, 14 and 30 are skyline units which will require large stumps and trees in order to hold the skylines. Backlines should be brought to merchantable timber boundaries.

There are a few units laid out in which it will not be possible to reach the backline to log timber without encroaching on standing timber due to irregular layout lines. These include units 7 and 34. The lines should be straightened to provide logical cable roads.

There are several areas where the buffer zone between harvest units is so narrow that it will probably blowdown prior to re-entry; or certainly not allow for a viable harvest unit when re-entry occurs. These buffer areas include timber between units 29-35, 35-36, 36-37, 21-22, 7-8, 8-9 and 9-10. Many of these units can be combined or expanded while still within the 100-acre guidelines.

ALP recommends that more attention be paid to Alternative 8 and that it be incorporated to a greater extent into the planning for orderly development of Suntaheen Creek. This alternative provides for logical harvest units, wide buffer zones between units, harvest of higher site lands which results in faster growing young timber, while still providing for the protection of streams and game management areas in these LUD IV VCUs.

Whitestone Management Area - Gartina Creek

Harvest units 8, 10 and 10a reach beyond the limits of merchantable timber. In addition, the west half of unit 8 is uneconomic because of the non-merchantable small timber contained therein. In the west quarter of units 10 and 10a there is non-merchantable timber to the extent that the backlines probably will not be able to support a normal highlead or skyline harvest system. Backlines should be brought down the hill to merchantable timber.

Unit 12 has a configuration which will result in potential future blowdown and potential mistletoe infection of the natural reproduction which will result from harvest. The result will be that blowdown will either have to be left or harvest activities will take place across the reproduction. Backlines should be smoothed up to reduce blowdown, etc. potential.

Units 20-23 are characterized by having very poor timber, very poor skyline opportunities and low volumes per acre. It is recommended that these unmerchantable units be deleted and volume substituted elsewhere.

Unit 15 appears to require skyline logging which exceeds 2,250 feet slope distance. Also, the uphill portions of this unit are characterized by having poor tailholds. Additionally, unit 15 as designed will have an isolated area of merchantable timber on the east side which should be included now as opposed to leaving it.

The Forest Service layout requires the crossing of Gartina Creek twice, once for the mainline road and again in order to access units 13-15a. Alternative 8 requires that Gartina Creek be crossed only once resulting in less potential damage to that fish habitat environment.

In addition, Alternative 8 provides for control of areas between units 15 and 15a, whereas, the Forest Service photo layout indicates that it would be difficult to control the flow of logs to a logical landing in the next entry. The layout needs to be carefully designed to avoid sidehill yarding of the timber left for the next entry.

Also there appears to be a merchantable fringe of timber to the west (uphill) of unit 11 which should be included to avoid leaving small uneconomic patches for harvest later.

Due to the considerations listed above, it is recommended that the Forest Service pay greater attention to Alternative 8 which is logical in layout, including the location of backlines where there will be tailholds, and is economic while still allowing for re-entry at a later date. Also, it is recommended that units 20-23 be deleted because of their not being commercially viable.

Freshwater Management Area - Upper And Lower Game Creek

ALP did not designate Game Creek for harvest during this five year plan. Therefore, the Company has been unable to take as close a look at this drainage system compared to other areas which were so designated for harvest activity. The major reason why a review was not made was due to the fact that the Forest Service designated Game Creek for harvest relatively late in the process because it was becoming evident that there would be an insufficient volume available from the areas already designated for harvest by Forest Service in its various alternatives. Not only were harvest units reduced in size in other locations compared to Alternative 8, but substantial areas were dropped from the ALP's suggested alternative including most of the Iyouktug (north of the creek), Wukuklook Creek and Gypsum Creek.

An analysis of the photographs and material available indicates that there may be instances when the backlines of harvest units are in unmerchantable timber which means that logability is not feasible.

In at least two instances involving harvest units 21 and 54 there are requirements for yarding substantially greater than 2,000 feet slope distance. Especially in the case of harvest unit 21, this requirement may entail harvesting with insufficient deflection to assure feasibility. This situation can only be mitigated if spur roads can be constructed to reduce yarding distances. Verification will have to be in the field with the results determining the final configuration of the units. At minimum, slope distance of 2,000 feet must be assured to meet realistic conditions.

As in other areas analyzed, ALP there appears to be some merchantable timber left behind harvest units in a manner which will preclude an efficient harvest method during the second entry. Also, there may be a few small units of uneconomic size which have been identified for harvest. Most of the units of uneconomic size are relatively close to Game Creek itself. Unit 24 has a significant volume of second growth which should be eliminated from this entry.

In at least one instance on a spur which crosses Seagull Creek there appear to be harvest units laid out which will not be able to be logged due to the convex nature of the hill where the backlines stop. The backlines should be relocated to assure proper deflections.

Analysis indicates that there is very little timber available for harvest on units 6-11. This timber is generally unmerchantable and small. It does not have the characteristics that meet today's commercial requirements. This timber should be eliminated.

Due to the lateness of designating Game Creek as a harvest area, ALP reserves the right to offer further comments at times in the future in order to assure that the harvest plan for this area is efficient and of an economic size which will provide the necessary contractual guarantees per the long term sale contract and still meet environmental considerations.

Freshwater Management Area - Freshwater Creek

After a review of the photo layouts as proposed by the Forest Service and the Recommended Action, ALP has the following comments and concerns:

It is felt that units 29, 32 and 39 have highly irregular cutting lines, especially at the back of the units which will result in excessive windthrow. Also, merchantable timber has been left at the upper areas of these units. This timber will not be able to be harvested in future entries. The merchantable timber should be included in revised units and the cutting boundaries smoothed to reduce windthrow potential.

Harvest units 23, 29 and 44a will require yarding distances exceeding 2,000 feet slope distance. Additionally, there may be a lack of tailholds in the southerly most reach of unit 29 due to small timber being there. Slope distances should be reduced to 2,000 feet and/or brought in to assure tailholds.

Further investigation needs to be made concerning the backlines of some of the harvest units where such backlines enter into unmerchantable timber. Unmerchantable timber appears to be included in the harvest units for 23, 32, 38b and 39. It is recommended that cutting lines stop at merchantable timber.

In some portions of other harvest units that merchantable timber has been left in an isolated situation so that it will not be possible to harvest it at a later date due to having to undertake activities across recently logged ground or reproduction which has become established after logging. These units include 32 (to a small extent), 38b and 43a. Where such timber may be isolated from future access, it should be included.

There are a few areas where narrow buffer zones have been identified. These zones will most likely blowdown to re-entry, or they may have to be salvaged during the five year period. The narrow buffer zones include areas between units 8-9, 30-30a and 9-39. Units should be expanded or combined.

There is one unit which is small in terms of economical harvest and which could be expanded to provide for greater economies of scale without hindering the environment in any way. This is unit 6 which should be expanded to more logical size. In addition, unit 7 is small, however, it should be harvested because it constitutes all of the merchantable timber at that location.

ALP recommends that the Forest Service analyze the above comments concerning Freshwater Creek and that Alternative 8 be taken into account concerning revisions which may be made after this review.

Freshwater Management Area - Seal Creek

The following items need to be considered in order to make this area of the sale more viable and environmentally safe:

There are several harvest units which reach into unmerchantable timber resulting in inadequate tailholds and logging of material which is relatively non-commercial. These units include 3, 5, 6, 7 and 8. Especially, in the case of 3, 7 and 8, it is felt that this is the case. The lines should be adjusted to eliminate the unmerchantable timber.

Unit 8 has a random backline which would be very difficult to reach with skyline logging equipment. In addition, units 7 and 8 require skyline logging of a slope distance exceeding 2,000 feet. Cutting lines should be adjusted to reduce distances to 2,000 feet and backlines modified so they can be reached.

Several harvest units include blowdown which is at least 11 years old. At the earliest, these units will be harvested in 1932 which means the down timber will be 14 years old. None of this blowdown will be merchantable by the time it is harvested. These areas should be eliminated where ever feasible allowing the second growth to continue to grow up.

25 In addition, a road can be constructed along the northerly shore of Freshwater Bay in a manner which will take into account the environmental sensitivities that have been identified by the Forest Service. Along this road would be three or four harvest units which would be sufficiently low in elevation so as to substantially reduce visual impact. In addition, the harvest units would be widely spread out so that game would have easy access between the Bay and higher elevations.

Another major reason for locating a road around the northerly side of Freshwater Bay is to eliminate the need of a log transfer site at the mouth of Seal Creek. By not having a log transfer site at this location which is very exposed, there will be no visual impact from these types of activities, the costs of moving equipment to Seal Creek will be reduced, there will be no need for a temporary maintenance facility at the log transfer site and other types of administrative and production facilities that are necessary when operating in such an area. Therefore, ALP recommends that Alternative 8 which includes a road around the northerly portion of Freshwater Bay be implemented as opposed to the Recommended Action. This is because Alternative 8 is a reasonable, feasible compromise and having two log transfer sites in one Bay (when one can do the job) is an excessive burden on the environment.

Freshwater Management Area - Kennel Creek

The following are concerns that ALP has with the photo layouts of the Kenrel Creek units as recommended in the Recommended Action:

Our analysis shows that the lowest portion of unit 13 is stocked with reproduction and should not be logged.

We believe that the volume of timber in units 14 and 17 is very low and that consideration should be given to finding alternative merchantable volume.

Our understanding is that the road system to units 13, 14 and 17 has been located on the ground but the road is steep and deserves further analysis to see if it is feasible.

In unit 20 the slope distance for the skyline exceeds 2,250 feet at a point where the reach would be practically square to the hill. In addition, large portions of this unit include scrub which means there will be few tailholds along the backlines. Finally, the southside of this unit is characterized with having small unmerchantable timber. This unit should be modified to eliminate crossing a creek on a sidehill with little or no deflection. Additionally, scrub timber should be eliminated from the unit.

In unit 16 the backline has small timber which means that there may be no tailholds for yarding. Backlines should be adjusted to assure tailholds.

It is recommended that the above concerns be reviewed prior to actual harvest. Additionally, changes should be made especially where there is sub-merchantable timber or excessive yarding distances.

Freshwater Management Area - Hanging Valley

The harvest units in Hanging Valley designated in the recommended alternative have the following deficiencies based on the ALP's review of the photographs utilized by the Forest Service and maps from those photographs:

The buffer zone timber left between 36-37b, 36-36a and 37a-37b has a configuration which denies the opportunity to harvest future timber without yarding over dead ground or reproduction that has been established in this five year period. Stands of merchantable timber which would be isolated from future harvest should be included.

Unit 37b has a configuration along the backline which will result in a high potential for blowdown in the near future. The cutting lines should be smoothed up to reduce blowdown potential.

In unit 36 our review of the material indicates that the yarding distance to the backline exceeds 2,000 feet slope distance in a number of locations. The distance should be reduced to no more than 2,000 feet slope distance.

Unit 36a has a great deal of scrub, no benches for landings and requires a great deal of yarding square to the hill. Cutting unit boundaries need to be adjusted to eliminate elements which will preclude feasible harvest practices.

Unit 36a should be deleted from the plan and commercial timber substituted elsewhere. In addition, the south slope of unit 36 has low volume and should be considered for deletion with volumes made up elsewhere. Consideration should be given to deleting unit 37 due to very low volumes with these volumes being made up elsewhere in the five year plan. Finally, it is recommended that the other deficiencies noted above be corrected in order to provide an appropriate amount of commercial timber which can be accessed without creating undue environmental problems.

Freshwater Management Area - East Point

This area is characterized by having generally uneconomic small units which have some additional concerns to ALP. It is anticipated that the buffer zones between units 3, 3a and 3b will probably blowdown due to their location and configuration. The surrounding units should be expanded or combined to preclude this potential blowdown.

The configuration of the proposed cutting boundaries between units 7 and 8 denies the opportunity for a logical re-entry from the planned road system in order to harvest the timber which is left. There is every potential that this timber may blowdown and it would be necessary to conduct harvest operations across lands which have reproduction on them in order to get all the timber. Therefore, it is recommended that 7 and 8 be combined.

Alternative 8 provided for a harvest unit extending from unit 7 up to 6b which might provide a more logical entry to the rest of the units on that spur. Part of the reason for the layout was to pick up some blowdown which exists on ground which has not been designated for harvest by the Forest Service. Additionally, this was necessary to reduce the steepness of the access road. It is recommended that Alternative 8 be given further consideration to assure that there are cutting units which will access the blowdown, provide for a realistic road location and allow for a more logical amount of timber to be harvested.

Units 4, 4a, 6 and 6a are characterized by having timber which is borderline merchantable and not suitable for harvest by today's standards. It is recommended that these units receive further review and that alternative merchantable timber be designated for the five year period.

Upper Tenakee Management Area - Salt Lake Bay and 15-Mile Portage

ALP offers the following for consideration concerning the layout of this portion of the 1981-86 harvest plan:

It is recommended that the best location for the log transfer site is in Tenakee Inlet as shown in Alternative 8, as opposed to utilizing a location in Salt Lake Bay. The Tenakee site provides for potentially greater tidal action in order to disperse bark and other debris which may occur due to activities involving the trans-shipment of bundles from trucks to the water. The noise from these activities will be substantially mitigated for the private land owner and those who have special use permits in the Salt Lake Bay area. Also, the utilization of the Tenakee site will substantially reduce the costs of towing bundle rafts to markets, thereby reducing the deficit in the five year plan.

Units 9, 10, 20 and 27 extend uphill beyond merchantable timber which means that there may be insufficient tailholds for harvest operations. Bringing the lines down to merchantable timber will assure that tailholds will exist.

Not only does unit 20 extend beyond the merchantable volume, but every indication shows that the logging distance will be in the neighborhood of 2,500 feet slope distance. This distance substantially exceeds capabilities. Backlines should be made more even to reduce potential wind damage. Additionally, backlines should be brought to within 2,000 feet slope distance of a logical landing location.

It is recommended that the Forest Service consider putting in a unit where there is a fork in the road after it has proceeded southerly from the Forest Service proposed log transfer site. Alternative 8 displays a unit in this location; visual impact will not be affected. Adding a unit will assist in making the harvest more economical with being detrimental to the environment.

ALP's analysis indicates that units 16, 16a and 14 are uneconomic largely due to the too irregular configuration of cutting lines proposed. Unit 16a is very narrow and should be combined with unit 16b because the buffer strip between 16a and 16b will undoubtedly blowdown in the future. Unit 16 is not realistic because the fingers will blowdown and/or allow for the potential reinfection of mistletoe in the resulting reproduction. Eliminating the fingers and smoothing the backlines will reduce this potential.

Unit 16 requires three - 4 set-ups to skyline log the timber designated for harvest. Finally, unit 14 requires several set-ups to log and/or skyline the timber designated for harvest. Eliminating the fingers of timber and smoothing the backline will reduce the number of set-ups.

Our records indicated that the 15-Mile portion of this layout allows for only 1,000,000 board feet per mile of road to be built. The Salt Lake area allows for 1.3 million board feet to be built. In addition, close to 70-80% of the area will require skyline equipment which assists in increasing costs. Therefore, this area, unless the units are increased in size, will substantially affect the deficit potential for the five year period.

Generally, Alternative 8 laid out logical units with appropriate spaces for re-entry for a later date in order to harvest the remaining timber between the units. Much consideration was given to a layout which would lessen adverse affects on game, provide for future forest management considerations, reduce the potential for mistletoe infection, reduce the potential for wind damage and allow for good economics which is very much to the advantage to the U. S. taxpayer. Therefore, it is recommended that further review be given for this area and that Alternative 8 be implemented.

Corner Bay Management Area - Trap Bay

The Trap Bay area in particular seems to indicate a trend in layout which is substantially different than that originally anticipated in the long term sale contract and even in the recent body of national legislation such as the National Forest Management Act, etc. Practically, all of the units are irregularly shaped. Some units are as small as four acres. Of the 49 units laid out for the 1981-86 plan, only nine are over or approach 50 acres in size. This results in an average unit size at Trap Bay of only 24 acres. Due to the nature of the layout, it is anticipated that there could be a great deal of potential mistletoe problem in future forest management and there will be a substantial amount of windthrow in future years. Finally, a large number of the units are characterized by having low volumes per acre resulting in having to harvest more acres than might be necessary if areas were identified for harvest that had higher volumes.

27 Additionally, Alternative 8, as submitted, had only clear cutting as opposed to the Alternative 8 as proposed by the Forest Service. This partial clear cut should be eliminated from Alternative 8. The steepness of the ground all the way to the beach prompted ALP to drop the timber from harvest consideration.

Units which are uneconomically small include numbers: 8, 15, 15a, 18, 24, 28, 28a, 28b, 36a and 37a. These units should be combined or expanded where possible. Those which are surrounded by unmerchantable timber should be eliminated with the volume loss made up elsewhere. In addition, units 43, 44a and 44 are uneconomically small and require excessive road construction adding to the deficit position of the 1981-86 period. These units should be eliminated and the volume loss made up elsewhere.

While all of the unit boundaries are irregular in shape, it is felt that units 7, 8, 8a and 18-37a are especially representative of poorly designed boundaries. Boundary lines should be smoothed up, tailholds verified, etc. to assure realistic harvest conditions and reduced blowdown potential.

There are a substantial number of units which have merchantable timber left on the backlines located in a manner whereby future entries will require that logging cross dead ground or ground with freshly established reproduction on it. These units include 6, 7, 8a, 9, 15, 16, 26, 22a, 20, 19, 18, 29a, 31, 34, 35, 39, 39a and 40. These units should be redesigned to include isolated patches of merchantable timber.

Units which extend into unmerchantable timber include lower portions of 7, 17, 30, 30a, 36, 37, 37a, 38 and 29 (most of 29 is unmerchantable). Unmerchantable timber should be deleted from the harvest areas.

There are some areas where our analysis indicates that buffer strips between units are too narrow and will quickly blowdown after a storm of five year intensity. These include strips between 8-8a, 15-16, 28-28a and 19-28b units. The units are very small and should be combined where merchantable timber exists in between.

It is recommended that Alternative 8 be closely considered for the Trap Bay area. This alternative makes allowance for beach buffer zones which assist in protecting visual impact, provides harvest units which more adequately can amortize the roads to be built, reduces the edge affect which results in less blowdown and less infection from mistletoe, and generally reduces the impact resulting from the first entry into this area because there are fewer harvest units. The harvest units are of larger average size allowing for less land being opened up and less impact on fisheries resources. The combining of small units where feasible is strongly recommended to allow for reasonable and realistic future timber management besides realistic harvest conditions.

Kadashan Management Area - Kadashan River

After a review of the photo layouts, the following is offered based on ALP's analysis:

Several harvest units display irregular cutting lines which will tend to blowdown and/or have the potential for introducing mistletoe into the natural reproduction that will be established after harvest. These units include 11, 15, 25 and 28. In addition, unit 25 has a configuration, whereby, it will not be possible to yard the westerly portions immediately west of a finger which comes in from the south. In order to reach all of the timber to be harvested it would be necessary to log across that finger. Cutting lines should be analyzed and moved to provide a more logical configuration which will access all of the timber designated for harvest in addition to providing more protection from windthrow.

Of those units which extend up the ridge into non-merchantable timber, 18, 22 and 29 are the most significant examples. All of these units will require skyline logging based on present layout which means that most likely there will be inadequate tailholds along the backlines of these units. The backlines should be brought down sufficiently to assure that tailholds will exist.

ALP has identified a few units which have merchantable timber above the back cutting lines. This timber may not be able to be accessed in an economic fashion at a later date because it will be so isolated. The units which appear to have these characteristics include 11, 19, 20, 21 and 28. Cutting line configuration should be modified to include this merchantable timber.

There are a few instances where narrow leave strips exist which may make it very difficult to maintain windfirm boundaries once harvest operations have been completed in adjacent units. Those affected include strips between units 22-23 and 23-28. Unit 22 could be shifted down the valley to reduce the windthrow potential. Units 23 and 28 could be modified to provide at least as much timber while still assuring a good leave area.

There are numerous units which require harvesting to distances which reach substantially beyond 2,000 feet slope distance (the skyline distance which seems to be logical for Southeast Alaska). These units include 15, 16, 18, 22, 25 and 29. There is some possibility that relocating roads would be able to reduce distances to below or near 2,000 feet. However, there are indications that some of the units will not meet this standard and it will be necessary to make other modifications such as reducing slope distance to 2,000 feet.

It is recommended that the Forest Service review Alternative 8 and that careful consideration be given to modifying the deficiencies we have identified in the Kadashan drainage. Alternative 8 provides for easier timber management in the future, more economic access when re-entry occurs, greater windfirmness of surrounding timber, and assurance that isolated patches of merchantable timber will not be left. It also provides environmental safeguards to assure that amenity values are not substantially impaired. We have identified for harvest other units not in the Hook Creek drainage. These units which are between Kadashan and Corner Bay are recommended for inclusion.

28 Additionally, harvested timber could be transported to Sitkoh Bay with less resulting road construction. A small camp could be established at Sitkoh Bay with less environmental impact than building a road from Kadashan to Corner Bay, assuming that the Corner Bay facility will have sufficient volume for the 1981-86 operating period.

Crab Bay Management Area - Finger Creek

Preliminary layout indicates that harvest units 4, 5, 8, 9, 10a and 15 may require skyline distances exceeding 2,000 feet slope distance unless spurs can be constructed to reach benches, if any exist. In units 3 and 5 it is not possible to construct roads to the landings designated in the Recommended Action. Substantial modification of harvest unit boundaries is necessary to provide access, reasonable deflections and yarding distances.

Harvest units 8 and 9 are characterized by cutting lines which include fingers of timber which cannot be feasibly harvested at a later date due to logging over dead ground or through natural reproduction. Therefore, the Forest Service concept of this type of layout may result in timber being inaccessible in the future. Cutting lines need to be substantially modified to eliminate this deficiency.

A number of the harvest units reach into non-merchantable timber resulting in no tailholds for skyline or conventional logging methods. These units include 5, 8, 9, 10, 10a and 14. Cutting lines must be modified to assure that tailholds will be present for cable harvest activities.

Unit 4 includes areas of muskeg which are not harvestable. These areas should be eliminated and roads located to logical landing sites which include skyline stumps.

In two instances, narrow leave strips have been left between some units which will result in blowdown in the future and in uneconomic harvest areas at the next entry. These strips occur between units 4-8 and 10a-15. Eliminating the muskeg between units 4-8 will take care of the leave strip width. Further consideration should be given to combining units 10a-15, if possible. Additional review is necessary to determine if road access to unit 15 is feasible.

Alternative 8 involved four crossings of Finger Creek, whereas, the Recommended Action requires at least five crossings, minimum. It is felt that field review can adjust to reduce the number of stream crossings which may be necessary.

Special emphasis needs to be given to harvest units 8 and 9. The Recommended Action has yarding distances exceeding 2,000 feet slope distance, cutting lines, backlines in nonmerchantable timber so that there will be no tailholds on some of the cutting lines. Other portions of the cutting lines result in the isolation of merchantable timber which will not be able to be accessed at a later date. Also, cutting unit 9 may require the building of an excessive number of spurs and frequent set-ups of logging equipment resulting in excessive costs. These two units need substantial review and modification.

Therefore, it is recommended that field review be encouraged to provide for a better configuration, fewer crossings of Finger Creek, if possible, units left for future entry, less danger of blowdown, and less opportunity for infestation of mistletoe to occur.

Kelp Bay Management Area - Catherine Island - Portage

ALP did not select this Kelp Bay Management Area for the 1981-36 harvest period largely because of the relatively low timber volume available for harvest within the unit, especially on Catherine Island. Once the Forest Service had selected the units to be harvested from aerial photographs, ALP did send a team to Catherine Island in order to verify the volumes available for commercial harvest to certain of the units. We have confirmed that units 19 and 32 have less than 3,000 board feet per acre, unit 21 has less than 10,000 board feet per acre, and unit 22 has between 10,000-12,000 board feet per acre. The timber on these units is mostly scrub. Our observation is that in the case of units 21 and 22 there does appear to be commercial timber in adjacent areas. While it may be reasonable to require small amounts of marginal timber when it logically can be included as part of a unit, harvesting complete units is not realistic or economic. ALP recommends that the acres on these units be deleted and similar acreage of commercial timber be added elsewhere.

Certain units have been identified as having irregular boundaries which can contribute to windthrow at a later date or, reinfect newly established reproduction with mistletoe, or which may require the harvesting of commercial timber across dead ground or ground with newly established reproduction. The units in question include 6b, 18, 21b and 27. Cutting lines should be modified to correct these deficiencies.

Certain units have been identified as being very small and uneconomic to log, especially when one considers the relatively poor timber located within the unit boundaries. These units are 5a, 19 and 19a. These areas should be eliminated or substantially expanded if there is adjacent merchantable timber.

Besides those units already mentioned there are several with muskegs within the units including 10, 37 and 40. All muskegs should be eliminated from harvest areas.

In addition, units which have a great deal of marginally merchantable or submerchantable timber include 10, 36, 37, 40 and 43.

The timber designated for harvest on Catherine Island is so poor, that when combined with the layout in the Recommended Action, the result is that harvest activities are not feasible. Only if all the merchantable timber on Catherine Island is designated for harvest will it be possible to consider feasibility. The Forest Service should work closely with us to determine whether this area should realistically be harvested during the 1981-86 operating period.

While the units on the Portage Peninsula are similar in size, the timber is slightly better than Catherine Island. However, many of the units possess average volumes which are in the range of 15,000 board feet to the acre. Considering the large amount of volume involved, it is felt that consideration should be given to providing better timber to assist the economics of logging these harvest units. Additionally, locating a road to the ridge top would cause considerable disturbance of the area. The road location needs to be verified for environmental concerns and realistic grades and access.

29 East Kuiu Management Area

The following are comments and recommendations which ALP has concerning the 1981-86 recommended alternative for the East Kuiu Operating Plan:

Alternative 8 should show a log transfer site selected and fronting directly on Port Camden at a point which is approximately 3,000 feet west of the Forest Service recommended site. The reasons why we chose this particular location include: (1) the water is deeper than the Forest Service site; (2) there will be less fisheries impact according to comments received from the Alaska Department of Fish and Game; and (3) there will be better protection from northeast winds.

As ALP presented it to the Forest Service, Alternative 8 selected a log transfer site in No Name Bay which is approximately 1,600 feet southeasterly along the shore from the Forest Service recommended site. The Forest Service site would require an excessive amount of fill due to shallow water in the area which would result in more bay encroachment. ALP's site is in deeper water and there is a good rock source immediately adjacent thereto. The rock source could be developed from behind so as to reduce the visual impact. In addition, only 600 feet of beach road would be necessary to reach the ALP site. It is felt that this would be more acceptable than the excessive encroachment of fill necessary at the Forest Service site.

Generally, ALP agrees with the layout of the harvest units in the East Kuiu Management Area. Therefore, our comments are general in nature and identify minor concerns which should be reviewed during field layout activities.

The units as laid out in the Recommended Action in Port Camden, Three Mile, Salt Lagoon, No Name and Alvin Management Areas generally have the same characteristics. There are numerous units which are bounded by muskeg and/or scrub. Therefore, one can expect that tailholds for highlead logging will be difficult to find and identify, if they exist at all. This will result in the potential for having to modify unit boundaries on the ground in order to assure that logging systems can be effectively and efficiently utilized. Lack of tailholds, or inadequate tailholds adds considerably to the risk of unsafe logging. When stumps are pulled out of the ground operating personnel are endangered. In some cases, we have found that cutting lines go over ridges in order to access a minor amount of timber. Building spur roads to harvest that timber can be very costly and have a significant affect on the viability of sale planning and layout. Therefore, it is suggested that boundary modification may need to be undertaken during the five year period.

In a few instances, some timber has been left which could be included in harvest units as laid out on the aerial photographs. By including timber in these instances, logical units would still be developed while a finger of timber would be eliminated, thereby reducing costs of future entries.

VI. Monitoring

30 ALP endorses the monitoring and evaluation program which the DEIS describes beginning on page 81. We would hope that the wildlife review would be a program in which the Forest Service could work with the Alaska Logging Association which has hired a consulting biologist to work on deer problems.

31 On page 30, Decision Criteria, we recommend that item 2 "The Forest Service should have the people, time, and dollars to implement the plan." should be addressed. It is critical to the success of the 1981-86 Operating Plan that this issue be clarified. Using the Recommended Action in the FEIS as the guide, the Forest Service should be able to adequately address this issue.

Additionally, on page 33, column 2, the second paragraph indicates that a fisheries biologist will be present "when any impacting activities to fish habitat occur." Does this mean that a fisheries biologist will be present continuously during roading and logging activities which have the potential to impact fish habitat? This should be clarified.

32 We would also request that once the units become set for appraisal purposes, that there be a complete record of subsequent changes so that we can know when there is a deviation from the appraised plan sufficient to trigger a rate reappraisal under the contract.

33 It should be realized that any skyline units shown on the aerial photo layouts, resulting from IDT efforts, must be subject to final feasibility findings to be made from skyline design which shall be verified on the ground including the location of satisfactory tailholds. ALP understands that many people in the Forest Service realize that these steps must be followed before skyline units are marked on the ground and released for logging. Because ground conditions on profiles may be different, or tailhold anchors different (or absent) than those interpreted on aerial photographs, the exact shapes of units from IDT work will not always be the same as the ground layout boundaries finalized using the factors mentioned above. ALP recommends that all changes in unit shapes be recorded on xeroxed photos showing original IDT office design and also the changes made on the ground including reasons for the changes such as references to the skyline design modifications as well as any other input necessary in finalizing the units as released. It is important that the xeroxed records document changes in volumes from those appraised in order to assure that contract requirements are met. ALP recommends that the above facts be made clear in the FEIS to prevent any assumptions that all of the IDT photo unit layouts for the preferred alternative will be finalized exactly and precisely on to the ground and released for cutting. Certainly, there always have been adjustments needed in photo layouts as compared to on the ground and there will be this time. It is important that misunderstandings be avoided now and later.

VII. Page by Page Miscellaneous Comments

34 1. Table 1 on page 14 shows 34% of the study area is classified as inoperable. The readers should be informed as to why the timber on these areas is inoperable.

35 2. At page 17 fishery mitigation measures are discussed. At page 20 the need to protect cultural resources is explained. In each case, Section 7 of the contract provides protection to the resources. The various subsections of Section 7 which protect these and other resources should be mentioned in a separate section of the DEIS so the reader is aware that there are constraints upon ALP other than those imposed by la The reader should also be aware that these provisions can be molded to provide site specific protection to resources.

36 3. The Transportation Section on page 24 would be more helpful if a number of things were explained. First, the public should be aware of the need for a favorable board feet to volume ratio. Likewise, this section should describe the recreation value of the roads and the value of these roads to the Forest Service in managing these and other resources. Furthermore, the public should be aware that the full cost of the roads is borne by the timber sale on the first entry. Subsequent entries do not have to bear this initial construction cost.

37 In the "Process to Formulate Alternatives" Section at page 31 it is pointed out that "the 2MMBF yield/mile of road will offset development costs and allow normal profit risk allowances to produce a positive stumpage value." ALP's analysis of the Recommended Action indicates that in only one case did the Forest Service exceed 2MMBF per mile of road constructed, that being at Finger Creek. Fresh Water Bay and East Kuiu show ratios of 1.60MMBF/mile and 1.73MMBF/mile, respectively. The other areas vary between 1.45MMBF/mile down to .83MMBF/mile. The Kadashan drainage road miles were not mentioned on page 70, however, the Recommended Action displaced 369 miles leading one to deduce that Kadashan has 37 miles for a ratio of .76MMBF/mile of road.

38 Analyzing the Forest Service layout in the Recommended Action, there appears as though more consideration should be given to fuel consumption, which in today's world should be a major factor. Certainly, one objective should be to hold consumption down to a minimum by having more efficient truck roads which will be located in a manner to reduce transportation and construction costs. One example is at Kadashan where unit 24 proves this point quite well. The ALP cruise shows there is only 16.8 MBF per acre standing on the unit. Considering that a mainline road is going into that unit makes the situation all the worse because of the extra fuel consumption necessary to build a road to that standard. Harvesting timber under 20 MBF per acre often costs more than it is worth, especially when it is necessary to access that with the mainline road. Therefore, one should log limited areas of low volume per acre and mix that with more liberal amounts of high volume per acre in order to be fuel efficient in the long run.

4. Under "Areas Considered" on page 31, the following statement is made with respect to decision not to log Krestof Island:

> "Since portions have been harvested, impacts on deer habitat will be reduced if re-entry is deferred to later operating periods."

39 Impacts on deer habitat will not be reduced if re-entry to Krestof Island is deferred except in the sense that they will not occur during this planning period; they will only be deferred until a later entry.

5. 40 We believe that in the "Process to Formulate Alternatives" Section on page 31 the public should be made aware that the Forest Service is going to undertake a "life of the sale study" to determine the areas from which ALP's volume will come in the future.

6. 41 Page 38, paragraph 5, column 1, regarding fisheries states as follows:

> "The number of drainage structures and the potential for impacts is approximately proportional to the length of road within a watershed. High sediment levels from logging roads have been shown to adversely affect fish, macroinvertebrates and their habitat."

While this statement may be valid, especially for streams in Washington, Oregon and Idaho, the relationship is not necessarily true for all of Southeast Alaska streams in logged watersheds where roads and crossings are properly designed and built. Often changes attributed to logging have not been quantitatively well documented. The inference that logging always adversely impacts fish and fish habitat may lead the uninitiated reader to an unwarranted and somewhat biased conclusion.

7. 42 The statement at page 56 that Alternative 8 does not utilize Seal Creek volume is in error as can be seen by examining the units depicted on the Alternative 8 map. Alternative 8 has the added advantage of eliminating the Recommended Action's addition of a log dump at the mouth of Seal Creek.

8. At page 56 it is stated:

> 43 "Portage Peninsula and Pavlof Ridge Roads provide increased cost benefit ratios over the life of the contract and over the rotation. Alternative 8 does not utilize these opportunities."

We believe that these roads are infeasible to build because of the steepness of the slopes involved and because of the requirement to end haul which they probably would entail. Whether or not end haul is required, we believe that each road would have significant environmental problems and excessive cost which should be more fully discussed if road building in these areas is contemplated.

9. 44 The visual and recreational material at page 58 seems meaningless. From where would a viewer stand to make these judgments? We contend that if a viewer was quite close to the clear cut, any clear cut, he or she would find it unattractive. As one moves away from the clear cut, it becomes less unattractive. We believe that the heed which has been paid to visual and aesthetic concerns has been at the expense of more important environmental impacts upon other resources. We suggest that visual information is simply the subjective comment of the writer of this section of the DEIS and should be given weight in the decision making process which corresponds with this fact.

45 Therefore, the statement at page 70 as regards the Corner Bay Management Area "Alternative 2 as emphasized to meet high visual needs" seems to us a wrong management direction unless the criteria by which the visual needs were determined and what trade offs were made are

45 explicitly spelled out. Particularly, where visual and aesthetic matters are involved, we should know the number of people who made this judgment. If, as we suspect, only one or two people made the judgment, we suggest it is wrong to assign it much value. To do so gives one or two people a veto power over a plan for subjective reasons that may not have the same impact upon another. In other words, because it is subjective, it is nonreviewable and no one can say whether the writer is right or wrong.

10. The decision on the Kelp Bay Management Area in the Recommended Action was also based upon "high visual sensitivity." What is the benefit cost ratio of this area and the Corner Bay Management Area? 46

11. At page 73, column 1, it is stated:

> 47 "Timber will be harvested from about 28,000 acres (not significantly different than other combinations of (sic) and Stikine options. Normal logging operations will create an estimated 5% to 10% of bare mineral soil which will be more erosive than undisturbed sites. While sedimentation V-notches will be greater than for other areas, overall increased sedimentation should be minimal depending upon stream proximity, soil type, size and disturbance."

Alternative 8 harvests only 20% of the operable volume as identified by the Forest Service. This is quite close to the Recommended Action volume level. Given the minimal impact which the Recommended Action apparently will have on soil and soil disturbances (thereby indicating that the fish will not be harmed), and given further the similarity in volume harvested, we questioned a number of the contentions made about the harm which Alternative 8 would cause to fisheries and wildlife.

VIII. Conclusion

ALP believes that, notwithstanding the comments above, the DEIS as written is legally sufficient. However, it would be most useful if responses to these comments are carefully made by the Forest Service in the final DEIS. We stand ready to work closely with the Forest Service in developing a final plan which will meet contract obligations and federal and state laws and regulations.

ALASKA LUMBER & PULP COMPANY, INC.

By: Pete Huberth
Pete Huberth
Resource Coorinator

Errata

p 9 4th major ¶ infestation should be infection (line 3)

p 35 last ¶ line 3 (sic) should be Sitka

p 3 2nd ¶ last line delete not

Response to Letter 3
(Alaska Lumber and Pulp Co.)

1. We agree. Although the contract provisions to protect environmental values were not discussed specifically, they were considered in making EIS recommendations.

2. We agree that the well being and lifestyle of those who live in logging communities are major concerns. Copies of the draft EIS were sent or given to each of the active logging camps and in addition, meetings were held in Hoonah which will become a major logging community. The only logging community that will be affected differently in the final EIS than in the draft EIS is Corner Bay. The draft EIS envisioned Corner Bay as continuing at the present level; the final EIS reduces the amount of timber available to Corner Bay by about one-third. It would have been helpful to have had public meetings with the Corner Bay residents to explore that possibility.

3. The regulations have been met.

4. We agree that the discussion of the Decision Criteria is adequate. The sale as a whole must appraise positively. There is no requirement to provide two MMBF per mile. Two MMBF per mile was used as a "rule of thumb" to indicate what alternatives may prove out to appraise positively. As you are aware, this figure may fluctuate drastically depending on the cost of the roads and the value of the timber.

The final EIS shows an investment need of $5.6 million for the Preferred Alternative. Although we have no contingency plan in this EIS if this amount is not forthcoming, we have every reason to believe that we will receive the funds; in fact, $745,000 is already in our tentative budget for FY 1981, in addition to survey, design, etc. fund for larger programs in subsequent years. If, in some future time, the necessary funds become unavailable, it will require an amended EIS and reappraisal.

5. The sale as a whole must appraise out positively; each area may or may not appraise positively.

6. Skyline units are being designed to harvest timber that would be unreachable by highlead methods or could not be environmentally protected using the highlead system. This should help achieve greater volumes for lesser road mileage, but the main reasons are stated above. They will not be designed merely to maximize the value of skyline machinery.

7. A statement to this effect is in the Final EIS.

8. The final EIS has been clarified to show that a portion of Alternative 4, 5, 6, or 7 must be combined with portions of Alternatives 1 through 3 to achieve the total volume.

Your contention that some of the combinations of Alternatives 1 through 3 with Alternatives 4 through 7 are not viable because of cost is true only if we consider the timber harvested as paying for all of the capital improvements. The alternatives reflect a range of investment needs; seven of the alternatives show that the timber alone can pay for all of the capital improvements; to require additional investment. Therefore, all alternatives or combinations thereof will be feasible depending on the level of investment.

9. This is covered in our reply dated October 11, 1978.

10. We could have made the reductions you suggest going from 554 MMBF to 525 MMBF and improved the alternative environmentally. Hindsight tells us that it would have been better to have done so.

11. We have clarified this to discuss effects similar in all alternatives.

12. A paragraph to justify clearcutting as a harvest method has been added to the silviculture section.

13. Although the information you cite was not discussed in pages 36-38 of the DEIS, it was presented in tables in the "Effect of Alternatives" section.

14. Although suspended sediment is rarely harmful in Southeast Alaska, concentrations can become high enough that they can suffocate fish. Suspended sediment becomes bedload sediment when stream energies reduce and as you state, can smother salmon eggs and fry. Bedload sediment can influence incubation periods and time of fry emergence. Smolt migration delayed beyond peak plankton blooms in the estuaries can result in increased salmon smolt mortality. This is especially relevant to pink and chum fry which migrate soon after hatching.

15. The DEIS did not say the increase in stream temperature would be adverse to fish. It may be beneficial but it is not conclusive yet. The anchor ice that may form in winter may be a more significant problem than the warmer temperatures in summer. The stream temperature monitoring being done at Indian River should help give us some answers. We have attempted to minimize any adverse effects due to temperature changes.

16. The table was entirely subjective in nature and has been dropped from the FEIS.

17. Knowledge of blowdown patterns and probabilities was used in determining cutting boundaries. However, blowdown was not the sole criteria in determining cutting unit boundaries. The location and shape of the cutting units was determined by an interdisciplinary team; knowledge of blowdown was one of the items that went into the decision. In some instances, the risk of blowdown was accepted as a cost of doing multiple use land management. In others, with relatively less other resource concerns, blowdown was one of the primary concerns for the location and shape of cutting units. During the layout process, some modifications will be done to help establish windfirm boundaries.

18. This table has been dropped from the FEIS.

19. It is true that the National Forest Management Act of 1976 does not require a favorable benefit cost ratio. Determining a benefit cost ratio for each area within each alternative would add little, other than time to the data presented. The sale as a whole must appraise out -- not each area.

20. We agree; the footnote has been dropped.

21. The investment dollars will all be spent on roads.

22. The intent in developing all of the units was to develop environmentally sound units within current regulations. The revised units reflect this intent.

Those units that could not be reduced below 100 acres and remain sound environmentally were maintained at their original size.

23. The e final EIS has been revised to show average unit size of the preferred alternative.

24. Pages 13-30. All of the units shown on the DEIS are photo layouts only. As these photo layouts are reduced to on-the-ground unit delineations, additional ground work modifies some of them. This additional on-the-ground work often involves IDTs and logging engineering input. Most of the concerns expressed in pages 13-30 of your letter will be addressed at the time the units are laid out on the ground. Specifically, a qualified logging engineer will review each skyline unit.

25. We considered this road in earlier deliberations and have rejected it because of high cost with little return. In addition, there were some environmental concerns that, although they could be handled, added to our reasons for rejecting a road along the northerly shore of Freshwater Bay (see page 69 of the DEIS). This is also discussed in the FEIS.

26. Page 23. This was also considered in earlier deliberations and was dropped because of visual impact, its close proximity to "The Portage" and the difficulty of holding rafts there.

27. Page 25 - the change has been made.

28. Page 27. We considered accessing the Kadashan timber via Sitkoh Bay for this period but rejected it in order to provide the Corner Bay camp with a continuing operation. Accessing the Kadashan timber via Sitkoh Bay would defeat this purpose.

29. With respect to your comments on the East Kuiu Management Area: 1. The log transfer site in Port Camden has been deferred to the future and will receive added IDT consideration at such time that it is deemed necessary to develop a log transfer site in the Port Camden area, 2. The proposed log transfer site in No Name Bay will be studied by a special IDT (including an ALP representative) during the 1980 field season to determine its final location and configuration. 3. Timber layout and planning and road location and configuration details will be refined as field work continues --ALP input will be sought.

30. We will be glad to have the ALA consulting biologist work with us.

31. This has been clarified.

32. This is currently being done and will continue.

33. Page 23.

As presently envisioned, the photo layout (along with special restrictions) is recorded on "field forms". After the units are laid out on the ground, the actual layout is recorded on these same field forms along with any reasons for deviation. A discussion of the field forms is found in the FEIS.

34. Inoperable is defined in the glossary.

35. The contract has several clauses regarding the protection of other resources. It is these clauses (including any revisions) that allow the EIS to be implemented. The EIS is "results oriented". We felt the technique to achieve these results to be not as important (from the public point of view) as the results. The FEIS reflects that feeling.

36. The discussion of transportation has been expanded and clarified.

37. As mentioned earlier in this letter, the two MMBF per mile was used as a rule of thumb to produce a positive stumpage value. No alternatives achieve the two MMBF per mile guideline. However, it is important to note that as of an appraisal done in late February 1980, only Alternative 3 and the Preferred Alternative required additional funding. All other alternatives appraised positively even though they did not have 2 MMBF per mile.

38. Although not one of the decision criteria, reduction of fuel consumption was one of the beneficial fallouts of the way the timber deferrals were handled. Several entire drainages were deferred to future periods. This resulted in building fewer roads, improving economics and reducing fuel consumption. Had we deferred only units and maintained the same road system, none of these benefits including reduction of fuel consumption would have occurred.

39. This is a five-year plan; impacts will be reduced during the life of the plan.

40. The life of the sale study has been discussed in replies to input to the FEIS; these replies will show up in the Final EIS.

41. The relationships between road building activities and suspended sediment production are well documented. Although numerous mitigating measures minimize risk for adverse impacts to fish habitat, timber harvest activities which involve instream disturbance and exposure of mineral soils involves the most likely source of adverse impacts from stream sedimentation.

42. Confusion concerning this item resulted from your map and accompanying data. The map showed units to be cut; the tables did not. This has been clarified in the FEIS. See our previous discussion regarding the road along the northerly shore of Freshwater Bay.

43. The quoted passage was incorrect and has been dropped in the final EIS. This does not mean that we agree with your contentions in the following paragraph. All of your concerns are being considered in developing plans for these areas.

44. Landscape management is an important part of National Forest management and landscape architects are important members of our IDTs. We believe that your contention that "the heed which has been paid to visual and aesthetic concerns has been at the expense of more important environmental impacts upon other resources" to be untrue. The decisions reached were team decisions and included many disciplines.

45. The recommended action in Corner Bay was a team decision. It was done to meet total contract needs within environmental constraints.

46. As discussed previously, the sale as a whole must appraise positively; there is no requirement that each area do so. In that respect, the benefit-cost ratio was not considered for each area and had no bearing on final selection of areas. All LUD III and IV areas will be entered over the rotation.

47. The percent of operable timber harvested is only one parameter when considering impact. We feel that when all of the parameters are examined, the statements concerning alternative 8 will be found to be correct.

REC[illegible]
DE[illegible] 19 1979
CHATHAM AREA

Richard M. Wilson
Forest Supervisor
USDA Forest Service
Tongass NF-Chatham Area
P.O.Box 1980
Sitka,Alaska 99835

December 15,1979

Dear Mr. Wilson;

Thank you for soliciting responses to the Draft Environmental Impact Statement of the ALP 1981-86 Timber Sale Operating Plan. I found the Environmental Impact Statement deficient and or objectionable in several respects.

A. The fifty year contract with ALP was made in 1956 prior to many of the laws and guidelines which now direct National Forest Management toward multiple use planning and protection and enhancement of many resource values, including,but not exclusively, timber resources. As is stated on page 32 of the DEIS, "Section 15(b) of the National Forest Management Act of 1976 validated the long term timber sale contracts in Alaska." and as stated in the "Decision Criteria", "The preferred alternative should provide an opportunity to meet contractual obligations."

Fulfillment of these contracts,however coflicts with several other directives to the Forest Service and with other decision criteria. On page 99 the DEIS states, "National and departmental directives call for protection of the soil resource and development of guidelines for mitigating both direct and indirect soil impacts. Timber harvest on National Forest land is to be considered only where;3. Protection is provided for streams,streambanks,shorelines, lakes,wetlands and other bodies of water from deposits of sediment likely to seriously or adversely affect water condition or fish habitat." And on page 100,"...guidelines and regulations provide the following objectives to the Management program:*Develop and maintain...a pattern of wildlife habitats on the National Forest System

Lands that will best meet the needs of wildlife, fish, and people now and in the future." And on page 102,"USDA Secretary"s Memorandum No. 1827,Revised (October 30,1978) specifically establishes social and economic considerations as a function of land use policy:This departmental memorandum establishes a departmental policy to promote attainment of land use objectives that are responsive to the needs of the people.".

The 8 Alternatives explored in the DEIS and the Recommend-
ed Action meet only the contractual requirements. They
conflict in many instances with other directives. Obviously
1 when directives are in conflict compromise is intended
and expected. However, it appears that the Forest Service
has considered compromising on timber sales only in so
far as obtaining the 395 MMbm from more or less economically
beneficial or environmentally damaging areas and has not
explored alternatives partially fulfilling the contracts
to meet, or more nearly meet, other directives for plan-
ning and management of the National Forest. Furthermore,
the DEIS does not seriously consider a no action alterna-
tive and does not explore the economics or environmental
2 impacts of no action. These two deficiencies appear to
violate the National Environmental Policy Act requirements
for considering alternatives. This DEIS is not an evalua-
tion of alternatives,but is only an evaluation of the de-
tails of one alternative.

B. This is the fifth in ten five-year contracts. Already
the Forest Service is proposing to cut in contingency areas,
with 25 years of cutting at current rates yet remaining.
To evaluate the environmental impacts I need to see plans
for the remaining contract period also. It does not make
any sense to select cutting areas for this five year sale
without examining the longer term plans. Effects of cutting
on fish, wildlife and recreation last for longer than five
3 years. In fact on a 100 year rotation period, some effects
are essentially permanent. If the Forest Service decides
to exclude areas from this five year sale due to high
wildlife or fish or recreational values, there is no as-
surance that these areas will not be cut in future sales
when options for areas to cut are more limited. Without
this assurance choices now are rendered virtually meaning-
less. Plans for the entire remainder of the contract per-
iod must be presented for evaluation of environmental
effects.

C. The EIS should state how much old growth forest of com-
mercial value will be left after the fifty year contract
cutting.The EIS should demonstrate that there is another
25 years worth of timber to be harvested at current rates
and that there is yet another fifty years of sutting area
at current rates. With a 100 year rotation system there
is another 75 years of cutting before areas first logged
4 in the fifty year contract will be suitable for reharvesting.
The Tongass Land Management Plan specifies that all timber
volume (except that set aside for retention) must be
harvested over a rotation to provide even flow/sustained
yield. With another 75 years of harvesting at current rates
will there be any old growth forest? How much? What will
this mean to maintenance ond enhancement of fish and wild-
life habitat?

D. The draft EIS did not adequately discuss affects on
wildlife. More details on long term effects of logging on
deer populations should be described. The EIS should state
that under a 100 year rotation system the land cut over
5 will only be expected to harbor one sixth,at the most,
of the present deer population presently occurring in the
area.

There is not currently adequate information to evaluate the impacts of logging on most other wildlife species. This information should be obtained prior to large scale sales, such as this one, and is necessary to evaluate the environmental impacts of such a logging operation.

6 E. Information on the effects of log dumps and log transfer sites on marine organisms is sorely lacking. The few studies done in Southeast Alaska are not adequate to assess affects. Many of the species potentially affected are of great commercial value:crab,halibut,shrimp.and now with the developing bottom fishery,bottom fish. The EIS should consider the alternative of no log dumps or log transfer sites in marine environments, at least until further research has been done. An economic analysis must include the effects of logging and log dumping on fisheries.

7 F. Despite frequent statements such as, "Management of public lands is intended...to address and resolve the concerns of the public to the greatest extent possible."(p.3), DEIS plans are oriented to meet the concerns of that segment of the population concerned about maintaining employment at the mills in Sitka,Wrangell and Ketchikan with only secondary attention to other concerns. The people of Tenakee Springs do not want Kadashan Bay cut,yet the DEIS proposes to log this area.

8 G. On page 21 the DEIS states, "With few exceptions, the VCUs included in the 1981-86 study were assigned moderate to low ratings for primitive and semiprimitive recreation opportunity by the Tongass Land Management Plan." This evaluation seems inaccurate and misleading. Tenakee Inlet Management Area should have a high rating. The portage, especially, receives high use by recreationalists. As use increases at Glacier Bay National Monument ~~and as~~ more restrictions on visitor use are being imposed. Some of these recreationalists can be expected to over flow into the nearby areas of the Tongass, contributing to the already increasing number of recreationalists.

Kadashan Bayalso should have a high recreational rating as it receives much use by hunters and sport fishers, as well as subsistence use from the people in Tenakee Springs.

Crab Bay also has a moderate to high rating and Seclusion Harbor and Salt Lagoon is rated as having outstanding recreational opportunity.

9 H. Kadashan Bay should not be logged. It is a major salmon stream and an important wildlife habitat area,providing habitat for large concentrations of deer and bears, a feeding area for harbor seal adults and pups; mink,marten and otter are also present although I cannot evaluate their relative abundance. The flats at Kadashan are excellent for clamming and the bay is good for Dungeoness Crabbing. According to commercial crabbers, female crabs are very abundant in Kadashan and hence it isn't good for commercial crabbing, but it is a very good spot for the crabs.

10 I. On page 31 of the DEIS the text reads,"...road construction would approximate $130,000 per mile and that a 2MMbm yield per mile of road would offset development costs and allow normal profit and risk allowances to produce a positive stumpage value." Alternative #1, which emphasizes timber harvest economices and has the lowest road to MMbm ratio of Alt.1,2 or 3.only has a 1.89MMbm/mile ratio. This would seem to indicate that the Forest Service will be taking a loss even under the most intensive cutting plan. Why not delay until thimber is more valuable?

J. On page 34 the DEIS referrs to providing wildlife corridors and also discusses deer winter range as though it was a fixed area. Neither of these concepts seem to have much basis in reality. Deer, in the winter, are found w

11 where food is available and travel is feasible. The areas which are utilized during the less severe parts of winter, or during less severe winters,prevent overbrowsing of the areas which provide the last stand for deer under most severe conditions. The deer need more than just a passage or corridor from the alpine to the beach fringe. These concepts are misleading.

12 K. On page 37 in discussion of Wildlife there is no mention of the affects of logging,81-86 cutting plans, on bear, mink and marten. These should be discussed in the EIS and the research conducted prior to the sale,where it is lacking.

12 L. The effects of logging on trappers or trapping in the sale areas should be assessed.

13 M/ The Eis should describe the effects of logging on stream sedimentation and the effects and duration of sedimentation effects on salmon productivity. Costs of stream cleanup should be included in costs of the sale.

14 M. On page 41 the DEIS states, "Some slopes having high mass failure potentials would be harvested if this plan were implemented. This alternative also contains the greatest number of potential slope failures which' could enter fish streams." This is in direct conflict with national and departmental directives calling for protection of the soil resource as described on page 99. Areas with high mass failure potentilas should not be cut.

15 N. The economic analysis on page 59 and 60 does not adequately describe the costs and benefits of the different alternatives, including the effects on fish,wildlife, stream cleanup costs and effectiveness.

16 O. On page 63 the Recommeneded Action has only a 1.42MMBM per mile ratio What then is the significance of the 2MMbm per mile figure?

12 P.On page 74 the DEIS states,"Critical wildlife habitat, such as deer winter reange,bear and waterfowl concentration areas,and areas of high use by furbeareres have been avoided to the extent possible." This staement is misleading. Most furbearer concentration areas are not even known. Some known concentration areas for other species are going to be logged if these plans are effected.

17 Q.The log transfer site recommendations by Marcus Horton should be adhered to.

I look forward to your response.

Most sincerely, Katherine Hazard

Katherine Hazard
Box 262
Auke Bay,Alaska 99821

Response to Letter 4
(Katherine Hazard)

1. Assessment of resources by the Tongass Land Management Plan included timber inventory. This inventory, further refined by aerial photo interpretation and ground sampling during this planning process, indicates that sufficient timber is available to meet contractual requirements within directives and policy guidelines for protection of other resources. Alternatives of reduced volume were explored and rejected during the TLMP process and are not re-examined in this subsequent planning process. See also letters 25 (response 2) and 1 (response 4).

2. As discussed in Section III of this document, a No Action Alternative for the sale area as a whole would contradict directives of both the National Forest Management Act and TLMP. No Action, like the other alternatives, was considered for each area available for harvest. No Action was the alternative recommended by the team in a significant number of areas (see pages 51-53).

3. Long term and cumulative effects of timber harvest are discussed in Section III. These effects are discussed more extensively in Specialist Reports, available upon request. It is true that areas deferred during this operating period are available for harvest during subsequent harvest periods, excluding retention as defined by the TLMP process. However, we disagree that deferrals are meaningless. Such deferrals distribute harvest over a longer period of time and disperse the harvest impact over a greater area. Resulting benefits to wildlife, fish, and the visual resource are significant. See also letters 2 (response 11), 37 (response 6) and 15 (responses 3 and 7).

4. See letter 15, responses 3 and 7.

5. As specified by NEPA, extensive information available in other planning documents and resource studies is incorporated in this planning process by reference only. It is difficult to discuss adequately the many and varied effects of timber harvest on wildlife. Where research has provided insight, the research has been mentioned in the statement. Conjecture has been avoided in the interest of presenting known facts. Reviewers may refer to Wildlife Specialist Reports on file at Chatham and Stikine Area offices for more in-depth discussion and evaluation of the wildlife resource. The reader is also directed to documents referenced in the Appendix section "Sources Cited and Used." While your statement about the effect on deer may be true within the harvest units, there is no indication that management of the areas as envisioned by TLMP will reduce deer populations to one-sixth of their present level. See also letter 37 (response 4).

6. Minimizing adverse environmental effects on marine organisms, including sport and commercial fish and shellfish species, were important criteria used to select log transfer sites and systems. Recommendations provided by National Marine Fisheries Service and U.S. Fish and Wildlife Service were followed as much as possible to locate transfer sites. Environmental analyses of logging and log transfer systems on fisheries and the fisheries values associated with the watersheds to be logged were deleted from the EIS to promote brevity and ease of reading.

7. Extensive public involvement activities and participation by residents of all affected communities indicates that the issues are not distributed as this comment suggests. Employment and other economic considerations related to the timber industry are regional and local concerns. Similarly, protection of resources and/or specific locations, such as Kadashan, concern residents of all communities. To illustrate this, the public response record shows that a number of Tenakee Springs residents favored some logging in Kadashan during 1981-86 as a timber supply source for the Corner Bay camp. The majority of responses recommending deferral of Kadashan originated in Sitka and in Juneau.

The interdisciplinary team feels that the effort to resolve public issues and meet the recommendations and needs of many interest groups is a particular strength of this planning process. (See Section IV for documentation of planning response to public comment.)

8. Thank you for your assessment. Our reference to TLMP is accurate.

9. The interdisciplinary team recognizes the high resource values of Kadashan. These values were also recognized in TLMP and management direction developed in keeping with these values. Kadashan has been deferred from the Preferred Alternative for the 1981-86 period. At such time that harvest begins in this watershed, management will meet this TLMP direction. Road development during this period will, similarly, conform to this direction. See also letters 1 (response 36), 2A (response 2), 26 (response 1), 46 (response 2) and 50 (response 30).

10. The 2 MMbf per mile was a "rule of thumb" that is used to indicate how much timber per mile of road is necessary to offset development costs and pay base rates to the United States. Timber sale appraisals prepared for the FEIS show that at late February 1980 rates, all of the alternatives except Alternative 3 and the Preferred Alternative will more than pay their way.

11. These concepts are based on use patterns rather than predetermined or fixed areas. However, while the concept of "travel corridors," for example, may be simplistic, biologists feel that the integrity of known travel ways from alpine to saltwater should be maintained. Relationships, relative values, and preferred management of critical deer winter range, mid level range, and other habitat are discussed in more detail in the Specialist Reports.

12. We agree that more research is needed on the effects of logging on nongame wildlife, as well as on furbearers. Alaskan biologists generally agree that the fringe of timber adjacent to saltwater and estuaries is preferred furbearer habitat. While all furbearer concentrations are not known, those identified, including beaver ponds, estuaries, and beach fringes, were considered to merit special consideration. Additional discussion is provided in the Wildlife Specialist Reports.

13. Significant improvements in logging practices have resulted in reduced sedimentation in recent years. Costs of stream clean-up are included in the sale.

14. Your concerns are justifiable. We realized and identified the hazards and potentials in the EIS, as you noted. We also indicate that implementation would require extensive on-ground review and management modifications. These requirements would be necessary to assure that areas with high mass failure potentials would not be mismanaged. We refer you to the Sierra Club Juneau Groups comments #3 and 33 and to Southeast Alaska Conservation Council comment 2 for detailed discussion of these procedures.

15. The Economic section has been rewritten.

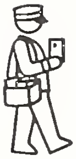
16. See response 10 to this letter.

17. With respect to proposed log transfer sites in the East Kuiu area we have met Mark Horton's and other fisheries and wildlife biologists' recommendations in that we have deferred development of the proposed log transfer site in Port Camden to the future and will field a special IDT which will include representatives from other state and federal agencies having responsibility for fisheries and estuarine habitat to determine final location and configuration of the proposed log transfer site in No Name Bay.

RECEIVED
DEC 19 1979
CHATHAM AREA

5

Response Form



YOUR NAME, ADDRESS, AND ZIPCODE:

John Hinchman Jr.
President
Huna Totem Corporation
Box 290
Hoonah, Ak 99829

Dear Reviewer:

YOUR RESPONSE BY DECEMBER 1 will be used in preparing a final environmental impact statement for the 1981-86 ALP operating period. You may use this form, or you may enclose a letter inside this form. When finished with your comments, just detach this page. Fold it in half with the other side facing out. Seal the edges. And, mail it so it will arrive by December 1. This form is preaddressed, and the postage is prepaid.

Some topics you may wish to discuss with us are:

1. THE ISSUES. Please tell us which issues you consider most important to this planning process. If these issues are not adequately addressed in this statement, please identify those additional questions or concerns which the Team should consider.

1. The issues of real concern would be the ability of the US Forest Service, the Alaska Lumber & Plup Co. and the Contractor thereof to directly effect the unemployment, underemployment of the local residents of Hoonah which will be focal point readily accessible by public comment. There does exist several individuals with job experience 1 in road construction as Hoonah up to a couple of years ago the only Bureau of Indian Affairs road construction crew in the whole area. Several individuals from Hoonah did work on the Alaska Pipeline project. Yet, with little work in the area now this does place many individuals out of work.

PLANNING	
Howse	
Belden	
Donnelly	
Fish	
Knight	
Mitchell	
Sunde	✓

2. ALTERNATIVES AND RECOMMENDED ACTION. The Team's recommendation is a blend of eight alternatives. We would like to know your thoughts on these alternatives, the recommendation, and the process used to develop them. If your concerns are best met by one of the alternatives, please identify it.

2. Alternatives and Recommended action #1 because of the larger and more concentrated harvest units cannot be acceptable. This poses adverse impact greater than other alternatives. #2 attempts more balance between timber harvest economic and environmental protection This alternative is between the two extremes 1 with the large cutting areas and 3 the most environmental #3 resource protection is the key to this alternative which may not be economically feasible. #8 is less risk to the upper valley areas but the advantage of this becomes a negative aspect when the acreage is made up in the wildlife habitat area which is in the lower areas. #8 none of these eight alternatives singly represent the best alternatives but the components found in all alternatives should be considered area by area and thats how the IPT reached this recommended action. As the IDt none of the alternatives is acceptable, therefore Huna Totem cannot reflect a favorable opinion to any one alternative. The recommended action would seem the most favorable. Because this is a five year plan the following should be noted. -HTC land Management plan will be for a long term planning and cannot adjust to suit the five year 2 projection of the US Forest Service -The EIS makes little or no reference to the longer range (next 5 yrs) or when the remaining volumes of timber would be harvested. With these two basic elements in mind Huna Totem can only reflect that the recommended action seems most favorable but not fitting to Huna Totem because of the lack of projection on the remaining volume.

Response To letter 5 (Hura Totem)

1. The Forest Service has been aware throughout the planning process that opportunities to meet employment needs in Hoonah are a major strength of the proposed development. The agency very strongly encourages Alaska Lumber and Pulp and the designated operator to emphasize local hire in the Hoonah area. The agency itself will follow a similar policy in hire of government employees, both by drawing on existing skills in the community and by supporting programs to develop these skills. Members of the Interdisciplinary Team and other Forest Service representatives have met with the school superintendent, vocational education teachers, and school board members to express support of increased training. This support will continue.

2. We anticipate a harvest of 151 MMbf this 5 year period and a similar amount the next 5 year period. At this time, we cannot estimate the amount of timber access to Hoonah in subsequent 5 year periods. See also Letter 15 (response 3 and 7).

6

XII.13.79

RECEIVED
DEC 19 1979
CHATHAM AREA

Dear Sir,

I feel that ALP 81-86 DEIS does not address, nor resolve several important issue.

1 The DEIS does not address the issue of retention of old growth forest in the Tongass as a reserve of fine wood for specialty uses such as boat and musical instrument lumber, or the fishery and wildlife issues raised by the professionally significant Wildlife Society position paper on climax rainforest in Southeast Alaska.

2 Yesterday, Loyal Johnson Alaska Dept. of Fish and Game game biologist closed the Sitka Black Tail Deer season two weeks early because of winter kill damage to the herd in the Peril Strait area, because of extensive clear cut logging in that area. The proposed entry in Hoonah Sound will just make a bad situation worse. The cumulative impacts of these plans must be addressed.

3 The DEIS does not provide any alternatives to the existing pattern of resource extraction dictated by the fifty year contracts. It is time for the Forest Service to address itself to serious alternatives to business as usual, if rumors of low volumes inventoried after the Tongass Land Management Plan was finalized are true. It is essential that the Multiple-Use Sustained Yield Act guidelines be followed. We need a healthy industry forever, both logging and fishing; instead of pulp mills for fifty short years that can destroy the way of life in this archipelago forever.

3 An important alternative to consider is the renegotiation of the fifty year contracts.

Areas of great sensativity such as Kadashan , East Kuiu ,
and Hoonah Sound should not be entered. These areas have
either been identified by the Alaska Dept. of Fish
4 and Game, The U.S. Fish and Wildlife Service as areas of
high non-timber resource value. Hoonah Sound is an important
recreation area for Sitkans as well.

One area the document should address is the transportation
of the logs to the mills. The Alaska State Ferry System
and countless private individuals would be happy to offer
repair bills as an indication of how wasteful the current
practice is. The log midden at Sitka National Historical
Park or any other beach in the area attests to this waste
5 of our nation's primary resources. An agency responsible
for our nation's forest must halt such practices.

It is unfortunate that fully a third of the document is
6 taken up with wasteful repetative logos. Heiroglyphics
are making a come back?

7 Fishery, Wildlife and Recreational Values should not be
ignored so that forest can be stripped of trees and roaded.

The BLM or the National Park Service could manage the
7 Tongass and only hurt one user group, as it stands
Forest Service policy serves the timber industry, paying
lip service only to other concerns.

It is time for the Forest Service to begin following its
legislative guidelines, the Multiple-use sustained yield
Act, NFMA and NEPA; renegotiate the contract so that
Smokey the Bear is not put in the unpleasant position
when the trees, game and fish are gone of saying, like
an overweight Bugs Bunny, "That's all Folks!"

Sincerely,

Eugene N Ervine

Eugene N. Ervine

Response to Letter 6
(Eugene Ervine)

1. These issues were generally covered in the TLMP and are not repeated in this EIS.

The issue of the value of old growth forest to wildlife is expanded upon in the FEIS. Retention of old growth vegetation to benefit wildlife has limited practical application in the areas designated by TLMP to emphasize commodity production. To the extent possible, retention areas have been designated in all management areas to protect the most sensitive habitats. The retention areas are identified primarily to protect critical deer winter range, estuarine areas and bald eagle nesting trees. However, other wildlife such as bears, furbearers and some birds will benefit in these areas. In addition, deferral of cutting units has delayed the removal of old growth throughout the Management Areas included in this plan.

2. Deer populations in many parts of the Chatham Area, including the Peril Strait Area, appear to be undergoing a population decline. The decline is apparently related to the severity of the winter of 1978-79. One area of relative high numbers of deer is the north shore of Hoonah Sound, which has not received heavy timber harvesting in the past.

In consideration of the factors mentioned above, these cutting units in the lower Finger Creek Drainage have been deferred in response to recommendations of Wildlife Biologists from the Forest Service and Alaska Department of Fish and Game. The deferral is designed to lessen the cummulative impacts of timber harvesting in this five-year plan together with impacts of previous harvesting in Peril Strait.

3. We agree that "we need a healthy industry forever, both logging and fishing" and believe the TLMP and this EIS will help provide that. See also letters 1 (response 4), 4 (response 1), 15 (response 3 and 7) and 37 (response 1).

4. This plan has been adjusted, reflecting public response on the draft environmental statement. Adjustments include deferral of harvest in Kadashan, deferred units on East Kuiu Island, and in Hoonah Sound. Allocation and management direction for these areas, provided in TLMP, is based on resource inventory, involvement of resource management agencies such as the Alaska Department of Fish and Game and U.S. Fish and Wildlife Service, and extensive public input. At such time as deferred areas are harvested, TLMP management direction will be met.

5. One solution for the problem you outline is dry land storage of logs and barging in lieu of rafting. This practice, however, is a mixed blessing. See also letters 1(response 17 and 20) and 2 (response 6).

6. Graphics included in the DEIS were in accordance with current design principles intended to assist readers of technical publications. The effort to avoid the traditional tediousness of such documents was overdone. Design of this document has been modified.

7. Approximately two-thirds of the Tongass National Forest is allocated for management emphasis on fishery, wildlife, recreation, and other non-timber resources. Within those areas allocated for timber harvest, development will be managed to protect these resources. Under multiple use principles of Forest Service management, the concerns and interests of all user groups are being addressed and substantially served.

RECEIVED 7
JAN 21 19
CHATHAM AREA

17 December 1979

PLANNING	
Howse	
Belden	
Donnelly	
Fish	
Knight	
Mitchell	
Sunde	✓

USDA
Tongass National Forest
Chatham Area
P.O. Box 1980
Sitka, Alaska 99835

Gentlemen:

The Forest Service has repeatedly stated in the Tongass Land Management Plan and the Southeast Alaska Area Guide that it will:

(1) assure that the management and protection of natural stocks and habitat will remain the primary means of increasing or maintaining fish production (SAAG, p. 78);

(2) protect and/or enhance fish resources and their habitat (SAAG, p. 79);

(3) prevent man-induced habitat impairment and repair naturally-occurring habitat damage (SAAG, p. 79);

(4) maintain the capability of the land and water to produce and sustain levels of fish populations mutually

desired by the Forest Service and Alaska Department of Fish and Game (SAAG, p. 79);

(5) provide for a sustained yield of fish populations through a substantial increase in habitat management (SAAG, p. 78);

(6) assure that the interdisciplinary team will specify appropriate Fish Habitat Units and prescriptions necessary to meet the fish habitat goals set forth in the SAAG, (SAAG, p. 81);

(7) implement SAAG policies to adequately protect the present level of natural productivity regardless of other uses and TLMP, p. 128);

(8) assure that even under LUD IV the biological productivity of fish streams will be protected in all allocation and management decisions (TLMP, p. 54);

(9) maintain a policy that the biological productivity of fish streams will be protected in all allocation and management decisions (TLMP, p. 54);

(10) regard stream productivity as a value which must be protected, and therefore allocation decisions will in no way harm fisheries (TLMP, p. 50);

(11) continue to view the biological productivity of fish streams as a value which cannot be compromised (TLMP, p. 49);

(12) strive to preserve the biological productivity of every fish stream on the Tongass .. (TLMP, p. 92);

(13) implement SAAG policies designed to protect existing salmon spawning and rearing areas (TLMP, p. 174).

The foregoing goals and policies of the Forest Service
state clearly that there will be no significant damage to fish
1 resources on the Tongass National Forest through logging
activities. Natural rearing is stressed as the primary basis
of production which will be protected.

Every alternative of the Alaska Lumber and Pulp Co. 1981-
85 DRAFT Environmental Impact Statement is rated by the Forest
Service as having negative effects upon fish habitat. The
recommended action, which is not rated (see page 60), can be
shown to have a negative rating at least as bad as the worse
alternative! This disclosure of negative impacts of logging
upon fish production by the Forest Service is welcome but it
2 must also be clearly recognized that this disclosure is just
the beginning of the chain of evidence indicating that logging
damages fish habitat and production. For example, the negative
ratings of impact on page 60 of the DEIS are essentially
based upon short term impacts: the longer term impacts
beginning at forty years and lasting until the next cutting
are not considered.

A person might naively believe that the Area Guide and Land Management Plan will assure protection of the fishery resource because they recognize its importance. An understanding of the political climate, however, will reveal that with the appearance of the Guide and Plan the process of protecting the fishery resource was seriously interrupted. To appreciate this fact some retracking of what has occurred in the past decade is necessary.

The complaints of logging damage to fish streams dates back into the 1950's and include such requests as Governor Egan's 1964 list of primary salmon producing watersheds to be withdrawn from logging, numerous resolutions by fishermen unions and sportsmen groups, articles in magazines and other indications of concern. The 1970 Sierra Club lawsuit brought to the court problems of logging and fish. Public support opposing logging began to rise in the 1970's because there was more and more evidence of damage, including increased awareness of the problem by scientists. A successful challenge by residents at the Point Baker-Port Protection fish community stopped logging for awhile in the 1975-76 period.

The credibility of the Forest Service has seriously slipped. The publication of the draft Tongass Land Use Plan and the Area Guide checked that erosion because the promises were so very clear, as noted above. Indeed, the Forest Service had stopped that erosion by the mere publication of these two documents and the final TLMP in early 1979. And the process of protection of natural rearing areas, the very objective of the Guide and Plan, was effectively stopped. The use, for example, of the legislative process as a method of protecting fish habitat was very effectively eliminated. The Guide and draft TLMP appeared on the scene at the very time the issue was being debated in Congress, and the foregoing statements that fish production would not be damaged on the Tongass were sufficient to convince many fishermen and residents of Southeast Alaska that the d-2 process was not the route to take to protect the fisheries.

Indeed, the protection of spawning and rearing areas through legislation was an avenue clearly open to the Alaska Department of Fish and Game which could have been employed to obtain protection of those major spawning streams yet unlogged or partly logged. Instead, the Alaska Department of Fish and Game with the help of the Forest Service twisted the argument for protection of natural rearing areas by arguing that land use designations by legislation would prevent hatcheries and enhancement activities. The end result of the publication of the Guide and Plan and the position of the Forest Service and the Department of Fish and Game on the hatchery and enhancement issue was a tragic loss of momentum toward effective fishery protection.

The Draft Environmental Impact Statement for ALP's 1981-1985 operating plan contemplates substantial adverse impacts on fishery values.

3 The fishing community of Southeast Alaska should be outraged over the disclosures in the Draft EIS.

Sincerely,

Richard T. Myren

Response to Letter 7
(Richard Myren)

1. This comment and the issues raised offer an excellent perspective of the obligations held by the Forest Service for managing various resources of the National Forest especially fish habitat. The goals stated in the Tongass Land Management Plan and the Southeast Alaska Area Guide, and recently, the National Forest Management Act, are very much the objective of our Forest management plans, including the ALP 81-86 operating plan. Best management practices to meet these objectives are continually being reviewed and improved. This process occurs both at the field level as direction to timber sale administrators and at the regional level where the Regional Plan is now addressing the issues raised by this letter.

2. To ensure a continual flow of timber products, while maintaining other Forest resource values, including fisheries, the Forest Service and the timber industry have made substantial investments in various resource protection measures. The measures are encompassed in increased road construction standards, more sophisticated logging systems, implementation of innovative approaches to log transfer and storage, and modification in timing, duration, and location of various timber harvested related activities.

We believe these ever-increasing expenditures, which represent reduced monetary returns to the government, respond to public concern and direction for protecting various Forest resources. Negative impacts assessed in the DEIS have been, to the extent possible, reduced. Additional adjustments for protection of soil, water, fish, wildlife, recreation, and aesthetic resources will occur during implementation of this five-year harvest plan.

3. Numerous groups and individuals associated with the fishing community of southeast Alaska have been invited to participate throughout this planning process. All responses to the DEIS from these groups and individuals are reproduced in this document with Forest Service comment.

8

PHONE 586-2135
OR 586-2801

DR. ROY A. BOX and DR. GILBERT H. KEMP
OPTOMETRISTS
611 WILLOUGHBY AVENUE • JUNEAU, ALASKA 99801

2450

DEC 14 '79

Forest Svr ✓	
Admin Offcr ✓	
Planning ✓	
Timber ✓	JTS
RL	
Engineer	
Watershed	
Wildlife	
Yak W. C.	
Jun W. C.	

November 27, 1979

Regional Forester
U.S. Forest Service
P.O. Box 1628
Juneau, AK 99802

Dear Sirs:

I am writing to state my opposition to the A.L.P. Plan for
1981 thru 1986 logging because it violates the basic tenents of
multiple use. Anyone that has a casual acquaintance with logging
and logging operations in Alaska and the rate of tree regrowth knows
that this type of utilization of our timber resource is certainly
not even close to being a good re-forestation program because of the
extreme length of time it takes for our timber to renew itself.
There are several other reasons why large areas of timber should
1 not be logged in Southeast Alaska and they all have to do with
multiple use. One of them is that an even stand of second growth
timber is practically a death knell for the deer population; logging long and extensive areas along some of the best pink salmon producing areas we have, has proven to be detrimental to those resources
which are easily manageable into a sustained yeild resource which
forest management certainly is not the way it is being managed now;
another reason is that many of the areas that are scheduled to be
cut are wintering grounds for deer and I have hunted extensively
in some of the areas the Japanese propose to harvest and know
that no wintering area would be left if this plan is adopted and
therefore deer hunting for Americans will be negated. I am sure
much better harvest methods than clear cutting could be applied
2 to the timber resources of Southeast Alaska and provide a sustained
yeild rather than a get what you can and get out approach which the
Japanese used in many of their other natural resource utilizations

over the years. I've also had some association with log dumps and know that even though they present some additional habitat for mid-water fishes, large log dump areas are devastating to herring runs and many species of crustaceans and fish that live on the bottom.

If the Japanese are in such bad need of timber and our timber
resources, I would suggest that they carry on an extensive recovery
3 program of logs that have been lost out of booms that literally line
many of our beaches. This would save devastation of the resource
they propose and also utilize some of our very valuable natural
resources that have not been utilized by them in the past. If re-
ducing the amount of timber available to the pulp mill in Sitka
causes a reduction in their production, employment can be provided
for Americans; and this should be a basic concern; by completely
revising the sale program of the forest service and requiring at
4 least secondary manufacture of our timber resources so that all logs
are processed beyond the stage of removing the bark. An additional
step should be taken to breakup the monopoly held by the Japanese
mill in Sitka and the Japanese financed mill in Ketchikan so that
independant loggers can again thrive in Southeast Alaska. Encour-
agement of independant sawmill operations would greatly reduce un-
5 employment and help stop the virtual give away of our valuable
natural resources.

This is a much more serious problem than behind the desk bureaucrats can appreciate and if allowed to continue will have a devasting affect on the life style of many of the people in Southeast Alaska. It is my firm belief that our timber resource is much more valuable where it is as a support system for wild life and fisheries rather than to fatten Japanese bank accounts and assist them in helping destroy small independent loggers and sawmill operators in Alaska as they have done in the past.

Yours very truly,

Roy Box

Roy A. Box, O.D.

RAB:jc

Response To Letter 8
(Dr. Roy Box and Dr. Gilbert Kemp)

1. As this response points out, timber is a renewable resource over time. Much of the planning accomplished on the Tongass in recent years has helped the Forest Service to better manage this resource over time to assure a sustained yield. Regeneration and regrowth of timber in southeast Alaska is excellent in comparison to many areas in the lower-48. Natural regeneration occurs on 95 percent of cut-over areas. Average volume yield after a period of 90-100 years is 60-80 MBF per acre.

2. The Forest Service responsibility includes careful management of wildlife and fish habitat; we, therefore, share these concerns. Interdisciplinary Teams preparing and implementing project activities, such as the ALP 81-86 plan, give considerable attention to the biological needs of species which might be impacted by the action. Major wintering areas for deer have been identified and cutting minimized in these areas. Leave strips between cutting units are intended as travel corridors for deer to move between higher elevations and wintering areas. Dispersion of cutting units over time and space, one major objective of this plan, increases habitat diversity in second-growth stands while diminishing the immediate effects in any single area.

Similarly, proposed logging is designed to minimize adverse impacts on salmon streams. Sensitive habitat has been identified and will include some harvest only in cases where protective management provides necessary assurance that impacts will be minimal and short-term in nature. All fish habitat zones which have not received field review by a Fisheries Biologist will recieve this review before implementation of the plan.

Finally, location of log transfer sites has been carefully coordinated with Forest Service, U.S. Fish and Wildlife, and National Marine Fisheries Service biologists. As described in the environmental statement, a number of potential sites were excluded in order to avoid the adverse impacts to marine life which are described in this response.

3. The Forest Service actively encourages salvage of beach logs. We believe this material can make a valuable contribution to the energy and wood fiber needs of Alaska residents. Some of this material is now being utilized for firewood and the Agency is working with State agencies and local industry to develop ways to make this material more available. Our objectives are to clear up the beaches while utilizing this resource.

We might add that logs lost by Alaska Lumber and Pulp are counted against the 50-year contract volume. The company is not permitted to cut additional trees to replace logs lost.

4. This response indicates some misunderstanding about the primary manufacturing requirements in timber sale contracts. Except for Alaska-cedar and western redcedar from the Louisiana-Pacific-Ketchikan (LPK) sale, primary manufacture is already required. The decision to allow export of Alaska-cedar was based on testimony presented at public hearings which indicated there is only a small local market for this material. Export of western redcedar from the LPK sale is a contractual right. We are continuing to monitor market conditions for this volume.

As a part of the TLMP process, extensive socioeconomic assessment was completed, including assessment of regional employment associated with the timber industry. The reviewer may wish to consult these studies, available through the Forest Service. In brief, it should be noted that employment resulting from the two long-term timber sales referenced in this letter is for Americans. The firms which do the logging are all American firms. The company in Sitka is Japanese-based but the loggers and road builders, as well as the mill workers, are American workers.

The Alaska Region of the Forest Service has an agreement with the Small Business Administration to set aside an average of 80 MMbf of timber annually for small business concerns. Large businesses, such as Alaska Lumber and Pulp, cannot bid on these sales unless they remain unsold after being offered to small business concerns. This program has been successful and has helped the small business segment of our timber industry. Since the SBA agreement expires September 30, 1980, public meetings will be held in March to help us determine the volume to be set aside in the next period.

9

CHATHAM 12/18/79	
F.S.	
A.O.	
ENG.	
F&W	
M.M.	
PLN.	✓
R&L	
S&W	
TIM.	
JWC	
YWC	

Benjamin F. Martilotta, Jr.
4341 West Whitehall Road
Pennsylvania Furnace, Pa. 16865
December 10, 1979

Dear Sir:

Thankyou for sending me this impact statement. This has been my first opportunity to learn anything substantial about forest management in Alaska.

Personally, I feel that too much of Alaska's timber resource has been
removed from commercial use because of recent legislation. The only comment
1 that I can make is that it is absolutely essential that the Alaska Lumber and
Pulp Company practise sound logging and forest management techniques so that
their good example can set precedence for future timber sales.

Benjamin F. Martilotta, Jr.

Benjamin F Martilotta Jr.

Response to Letter 9
(Benjamin Martilotta)

1. The long term contract with Alaska Lumber and Pulp includes substantive requirements for protection of environmental values. All logging and harvest related activities, such as construction and use of logging roads, log transfer sites, and other facilities, are conducted under the administration of the Forest Service. The Agency requires that all laws, regulations, and site specific best management practices be followed through the course of these activities.

10

DEC 1[illegible] '79
[illegible] Ofcr

401 Eighth Street
Juneau, Alaska 99801
December 7, 1979

Richard M. Wilson
Forest Supervisor, Chatham Area
Tongass National Forest
P.O. Box 1980
Sitka, Alaska 99835

RE: Draft Environmental Impact Statement, 1981-86 ALP Plan

Dear Mr. Wilson:

It is difficult to know where to begin. I can appricate the difficulties the Forest Service Assessment teams have had when dealing with the sort of large scale operations typical of Southeast Alaska. Additionally, the "rules of the game" have undergone a continual change during the course of the contracts with the timber companies. This has substantially altered the situation in effect when the original contract was signed.

Rather than comment on the entire draft, I will try and limit my comments to some general observations on the methodology of the assessment, a few general comments regarding the overall goals (end results) of the plan, and finally, I will focus on one specific area affected by the proposed plan.

I.

GENERAL METHODOLOGY

I appreciated the maps and felt there was a lot of valuable information in the draft. I am concerned that there was little said regarding the actual need to harvest 525 MMBM of the timber per time period. I know that is the upper limit specified in the contract but to use that as an assumed goal is to assume an outcome, which will by nature subordinate other needs that are equally important components in the decision making process. Because the overall situation in S.E. Alaska has changed so much
1 since the contracts were signed (i.e. by the TLMP and withdrawals), I think it is apparent that the upper limits included in the lease are no longer realistic. This is obvious, too, by the fact that we are already harvesting in the contingency areas, well ahead schedule. Through no fault of the Forest Service, it will be impossible to supply the maximum amount of timber to the pulp mills. I think it would be realistic to start from this premise and work forward. The drafts should at least touch upon this in the future.

Also, several times in the draft, the forests were referred to as "overmature." I am not familiar with all silvaculture terms, but I have hiked in and through a lot of forests in North America and Europe. There are many ways one might characterize forests, but "overmature" seems to miss the essential quality of a living environment. It assumes that something is better and more desirable. If this is a reflection of the attitudes held by members of the team that put together the draft, I would say you may have a problem with bias and you should consider ways of presenting more
2 neutral alternatives. In my own experience, I have found that forests are or perhaps are becoming. If humans can utilize them as they are, while still making due allowances for what they will become through the normal evolutionary process, then we should take the available surplus for our use. It would be a mistake to artifically mandate that we will cut the trees on a cycle following a set yearly rotation. Perhaps we should cut the available timber when it is ready. Let me give you an example. There are times when I work with wood. Depending on ~~making~~ what I am making (canoe paddles, decoys, or a house), I select the wood. I consider type, grain, age and other factors. For some projects, it would be a mistake to

use wood too "young" or too"old." The important thing is to get the proper wood for the project at hand. Now I know you have to provide large amounts of wood fiber for the pulp companies but the analogy to my situation is the same. Provide quality material for the task without destroying the integrity of the forest and we will all be better off. Maybe a question will dramatize this: when you leave the employ of the Agriculture Department, perhaps to retire, will you consider yourself "overmature?" Will you be expendable?, or is there room and need in all systems (social human ones as well as 'natural' ones like forests) for mature members or elements. Do not forget mature is stable and we could use more stability in this part of the world.

Finally, I was interested in the composition of the interdisciplinary team membership. I was impressed by the breadth of experience in different disciplines represented by team members. I think it may be wise to have a greater mix in the future, but in any event, you are to be commended for putting together a team that was (or appeared to be) more multifaceted than the Stiking area team. There were members of the Chatham team with anywhere from one year experience to what you might call "overmature" status -- that was good to see.

II.
GENERAL COMMENTS ON END RESULTS

3 I think it is very desirable not to store timber in subtidal areas. The letters from the United States Fish and Wildlife Service support this proposition (page 109 of the draft). In any event, this method of storage should only be used when no other method is available, and the time the logs are in the water should be minimized. It would certainly create a number of jobs if you required timber to be delivered via barge or limited the raft size to a manageable size. By limiting raft size, we would avoid breakups of huge unmanageable rafts and reduce the time spent in the marine environment. My first preference is to barge the timber.

Whatever roads are built, they should be kept minimized. In areas that have a high potential for recreation or significant concentrations of animals, I think it would be desirable to remove all bridges and culverts at the completion of the five year logging plan period.

4 The best evidence for limiting logging roads (or limiting their long term impact by removing culverts after five years), as well as limiting log storage in the marine envorinoment, seems to be the data presented in the chart #13 on Page 60 of the draft. If this information is substantially true the conclusion is apparent that the best cost/benefit ratio is achieved by limiting road impact and preventing storage of logs in the sea.

5 The monitoring program outlined on Page 81 is not very specific. I think that especially during spawning periods, it will be critical to monitor the impact logging has on the suitability for fish to spawn.

III.
SPECIFIC AREA IMPACT, EAST KUIU MANAGEMENT AREA

I suppose that the classification, closure and additional withdrawals of land on Baranoff and Chichagof Islands made harvest pressure on Kuiu Island inevitable. This is unfortunate because the desire to prevent logging in certain areas has artifically increased the demand to cut on Kuiu, which is land that appears to be as good or better than lands classified LUD I and LUD II in other parts of the archipelago. This is especially true for East Kuiu Island.

6 The Kuiu Island area is an area worth approaching for any purpose with the utmost caution for the following reasons: 1) it is isolated and distant from major populations of humans. As such, it is a sanctuary for various animals and in fact much of it is de facto wilderness. The area has concentrations of eagle, bear, and deer. 2) The interesting chains of lakes on East Kuiu, in conjunction with other water, are a valuable congregating place for waterfowl. 3) In addition to being a very high quality wildlife area, East Kuiu Island has great potential for recreation; sheltered inlets and bays provide access for boaters. The lakes and streams could be a ready access for indiviudals seeking isolated canoeing and camping. While this area is not unique in S.E. Alaska, it is superior to most other areas in this respect and worth establishing as primarily for "other use" as opposed to logging. The quantitative data on Page 15 indicate the regions in the Kuiu Island area have a high VCU (value comparison unit) rating. This rating should be reflected in a policy that goes slow on logging in this area, especially on East Kuiu Island.

What I suggest for this area is:

7 1. Consider whether it is necessary to build a road from Rowan Bay towards the east. Why not establish a temporary camp at No Name Bay with necessary roads emanatng from such a point? (Empahsis added.)

8 2. If you must allow logging on East Kuiu Island, prevent any road from penetrating across any major river interconnected with either chain of lakes system. This would allow substantial access to the timber on the southern half of East Kuiu Island as outlined on the "recommended action" map.

9 3. The logging operation closest to the river and lake system running into the Three Mile Arm on East Kuiu Island should only be undertaken with a skyline or areal system that will minimize damage to the soil strata and prevent erosion. I am aware that the cost of a new skyline system is roughly three times the cost of the high-lead system. The benefits of clean water in these streams is worth the cost that a required skyline system would impose. From an economic point of view, the skyline may not be cost beneficial, however, it may not be detrimental to the profitability of Alaska Lumber & Pulp Company. The tax incentive available to the Company through the accelerated depreciation allowance on capital equipment in the tax code (federal) makes investment in new hardware less painful than might be first thought.

4. It is highly desirable to have the log dump or transfer station at No Name Bay built on land for reasons cited elsewhere.

7 The proposed log transfer site in Port Camden is even more critical. Located midway along a closed channel of considerable length, the body of water would not flush out the wood fibers leached from floating stored timbers. This would exacerbate an already harmful situation. Any log storage along Port Camden must be onshore.

8 5. If it is absolutely essential to log the northern half of East Kuiu Island, (a proposition not to be encouraged) a temporary access should be made at a point just north of the river (see map). For the purpose of logging all sites, without pushing roads over the main watersheds, access could be had to significant amounts of timber. I would suggest using skyline harvest techniques if the proximity of a stream and potential erosion warrant.

Summarizing, I would consider not putting a road through from the Rowan camp. If the Alaska Lumber and Pulp Company is going to log along the east portion of Kuiu Island, there is little sense in driving logs by truck across the Island and then shipping them by water to Sitka.

Ship them direct from a cental point, perhaps at No Name Bay. This could be a temporary (five year camp). A system of temporary camps would allow greater flexibility for the Forest Service in managing the land. You can be assured that an area will be closed off again every five years affording the natural environment a period of regeneration free from high impact interference. I think it follows from such a program, with the potential for greater flexibility, that the Forest Service could more effectively implement a comprehensive multi-use program.

In any event, if you do log all portions of the eastern half of Kuiu, it should be done in a phased, orderly manner. I think it would be logical to begin at No Name, then stop, do the southern part of East Kuiu, north of Three Mile Arm, then a small area on the north part of East Kuiu accessable from Port Camden. Phasing the logging would allow large animals to shift habitate slowly and might minimize the impact. Please see map and explanations.

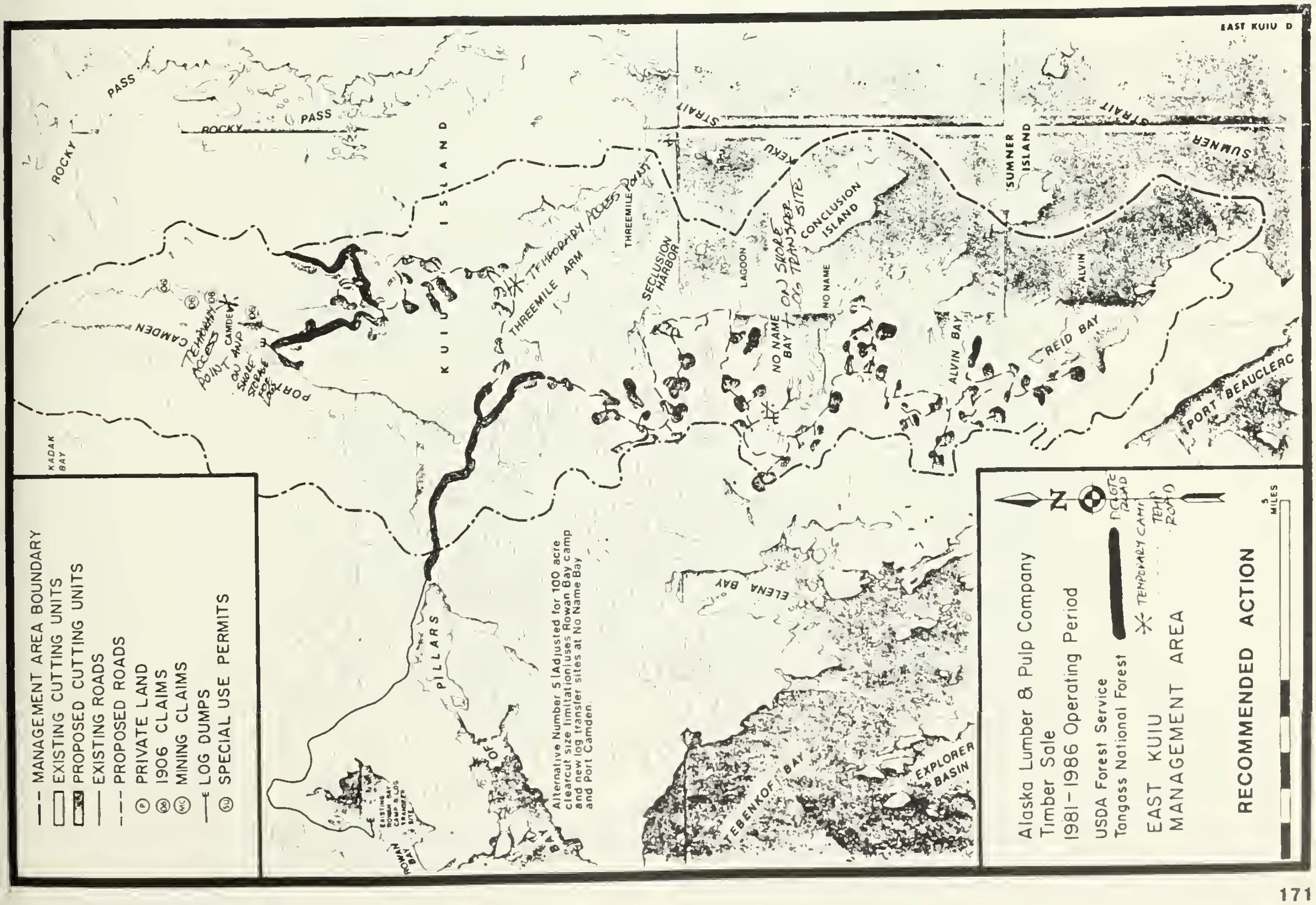
By not running the road over from Rowan, you would minimize area widespread of unnecessary growth and it would prevent the bisection by highway of historical canoe portages from the Three Mile Arm to Port Camden and from Camden to the Bay of Pillars.

Thank you for your attention in this matter.

Sincerely,

Joseph W. Geldhof

Enclosures



Alternative Number 5 (Adjusted for 100 acre clearcut size limitation) uses Rowan Bay camp and new log transfer sites at No Name Bay and Port Camden.

Response to Letter 10
(Joseph W. Geldhof)

1. It is correct that the volume offered in the alternatives, combined with carry-over volume from the 1976-81 period, is the upper limit specified in the contract. This contract is a legal commitment to be met by this plan. Regulations and laws providing protection to National Forest resources are also commitments to be met by the plan. See also letters 4 (response 1) and 23 (response 1).

2. The Forest Service shares the appreciation of Forest values expressed in this response. We agree entirely that the "living environment" of a Forest, particularly the old growth stands present in southeast Alaska, represents a special value which must be retained for present and future enjoyment. Such management of National Forest lands is an element of the multiple use principle which has been met by allocation decisions through the Tongass Land Management Plan. In the significant and extensive areas allocated for LUD I and II management, the values and the uses described by this reviewer will be emphasized. Other portions of the Forest have been allocated for primary emphasis on commodity or market resources. Here a cycle of rotation has been established to sustain the production and harvest of commercial timber in a manner which is consistent with the biological capability and suitability of the area and which is predictable and constant as an economic base for the industry and employment supported. Overmature is a silvicultural term and describes stands that have passed their mean annual cumulation of growth. In southeast Alaska, these stands are usually 200-400 years old and have 0 or negative timber volume growth.

3. See letters 1 (response 3 and 33) and 2 (response 1).

4. Expanded discussion of future management of roads is provided in the FEIS, Section II and III. It is current Forest Service policy to remove bridges and culverts following harvest unless there is specified need to maintain the road for better forest management, eg. access for silvicultural activity, fisheries enhancement projects, etc. See also letters 2 (response 11) and 29 (response 6).

5. The complete description of our monitoring program for fisheries was deleted from the EIS to promote brevity and ease of reading. Actually, such monitoring will include many aspects of timber harvesting activities and their effect on fish habitat, including spawning areas. Current research efforts being conducted by the Forest Sciences Laboratory, Juneau, and the NMFS Auke Bay Lab are exploring a variety of logging and fish habitat relationships. Actually, existing research data on the relationships of timber harvest and sediment production, and the qualitative effects of bedload sediment on egg to fry survival and benthos production, are relatively well-documented. Quantitative data on such effects will, and most likely always will, be virtually impossible to acquire.

6. The Forest Service agrees that Kuiu Island is an area of significant resource values. The planning process used to reach allocation decisions in TLMP addressed issues of wildlife and fisheries habitat, recreation opportunities, and social and economic factors, as well as resource availability and utilization. The public (individuals and organizations), other agencies (local, State, and Federal), and resource users (timber industry, mining industry, commercial fishermen, and others) were closely involved with the Forest Service in developing the Tongass Plan allocation. We recognize, of course, that the TLMP process--like any other similar process--could not and does not satisfy all interests in the Tongass.

The allocation established by TLMP is a reality and must be recognized as must the Congressional mandate for a specific harvest level. The allocation to LUD IV for East Kuiu establishes that harvest will occur and will be emphasized in keeping with suitable management of other resources. The interdisciplinary team feels that the plan recommended for East Kuiu meets this direction.

7. Construction of a road from Rowan Bay was approved through completion of the environmental impact statement for 1976-81. Construction of the road now extends to a point approximately one mile west of the head of Port Camden. In response to concerns of the U.S. Fish and Wildlife

Service, National Marine Fisheries Service, and Alaska Department of Fish and Game, the Forest Service has attempted to limit the number of logging camps on Kuiu to the existing camp at Rowan Bay and to limit the number of log transfer sites (LTS's). The Preferred Alternative includes only the camp at Rowan Bay and an LTS at No Name Bay. The proposed LTS at Port Camden has been deferred during this 5-year operating period.

8. Development of an interconnected road system on East Kuiu is essential. It will provide for the orderly development of the area as well as for future management of all resources. Development of this road system is planned in a manner to minimize resource impacts. To accomplish this, we must involve resource specialists beyond the planning stages to include field layout, construction supervision, and monitoring of maintenance over time.

9. A principle objective of the development of the harvest plan on East Kuiu has been to provide sufficient timber requiring a skyline yarding system. This will make it feasible for the operator to purchase the necessary equipment.

11

RECEIVED
DEC 13 1979
CHATHAM AREA

Dec. 10, 1979

Dear Sir:

I am writing in response to your request for comments on the DEIS for ALP's 1981-86 logging plan.

As a long time Alaskan who previously was part of a logging family in a western state I am sickened to see some of the same mistakes being made in SE Alaska that destroyed much of the wildlife and fishery resources of Western Wash. e tc.

I find the proposed plan unacceptable because no real
thought of multiple-use has been developed i.e. we are all
aware of the impact of clear-cutting on game - with the loss
of their vital winter protection and food. But most important
to me is the damage to valuable fish spawning streams - even
1 with the most carefull logging practices there is no way to
avoid the silting from surrounding bare hillsides and the
water temperature changes that occur for many years afterwards.
These environmental changes can often mean the difference
between a revitalized salmon stream or a destroyed run.

Fishermen have sacrificed for years through shortened
seasons in an effort to rebuild the salmon runs in northern
se Ak. only to now find some of the major rivers are to be
clearcut. Especially discouraging are the proposed plans
for the Kadashan area which after years of closure has
finally rebuilt it's salmon runs only now to be faced with
a major environmental disaster through logging , bridges,
2 roads etc. Fish return every two years (if their habitat
is not destroyed) but it takes 100 yrs. to grow a tree.
Somehow the top priority given to logging does just not make
good long range economic sense.

No fair-minded person would want all logging stopped but a more responsible approach would show that there is concern about what kind of SE Alaska will be here for our children and grandchildren to enjoy.

Sincerely,

Amy Johnson

P.O. Box 929
Sitka

Response to Letter 11
(Amy Johnson)

1. The Forest Service fully recognizes the relationships between logging and its potential impacts on fish and wildlife habitats. Fish and wildlife biologists, soils scientists, hydrologists, recreation specialists, and landscape architects are employed by the Forest Service to provide the expertise needed to recommend measures for minimizing the effects of logging on various non-timber resources. The timber industry, likewise, has made substantial investments in resource protection measures to make timber harvest as compatible as possible with other resources. More expensive road building standards, more sophisticated logging systems, and modifications in time, duration, and location of timber harvesting and related activities, are some of these measures.

2. We share your concerns for watersheds, such as Kadashan. The fisheries resources in Alaska are some of the most valuable in the nation. Any developmental activities proposed in these watersheds must incorporate maximum concern for protecting the habitat which supports these salmon runs. Timber harvest, likewise, will be substantially constrained to ensure protection of fish, wildlife, and other resources. You are invited to visit our Sitka and Petersburg offices to review the guidelines and policies we have with respect to resource protection. We believe you will find these measures substantially to your satisfaction; in time they can ensure a high degree of resource protection.

See also letters 1 (resp. 36), 2A (resp.2), 26 (resp. 1), 46 (resp. 2) and 50 (resp. 30).

12

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION X
1200 SIXTH AVENUE
SEATTLE, WASHINGTON 98101

PLANNING

Howse	
Belden	
Donnelly	
Fish	
Knight	
Mitchell	
Sunde	

RECEIVED
CHATHAM AREA
DEC 5 '79

Forest Supr	
Admin Otcr	
Planning	
Timber	
RL	
Engineer	
Watershed	
Wildlife	
[illegible] W. C.	
[illegible] W. C.	

REPLY TO
ATTN OF: M/S 443

DEC 3 '79

R. Max Peterson
Chief, Forest Service
U.S. Department of Agriculture
Washington, D. C. 20280

Dear Mr. Peterson:

We have completed our review of your draft environmental statement for the ALP Timber Sale Operating Plan for 1981-86. We would like to commend you for your intensive development of all the varied alternatives. A real choice is provided in the selection of alternatives. We are also impressed with your attempt to involve the public and other agencies in the decision making process. The excellent use of photographs and topographic maps showing the exact locations of proposed actions for each alternative further augments the utility of the statement. We also approve the intensive monitoring of the influences of timber harvesting activities. However, we have a wide range of major concerns and reservations regarding the potential impacts of the proposed timber harvesting activities. These concerns are outlined below.

1 First, EPA is especially concerned about the reduction of long term productivity of the timber and fisheries resources due to mass wasting and sedimentation. Harvesting on steep sideslopes, shallow thixotropic soils, and the loss of soil-binding capability from root death of harvested trees on steep slopes and along stream courses creates the potential for irreversible damage. Yet practices such as removal of riparian timber, harvesting on marginal lands with slopes greater than 70%, and extensive road construction along beaches and tidal flats are planned.

2 Under "Effects of Implementation" on page 38, it states that "removal of riparian timber will have significant influences on the stream ecosystem." While table 19 shows that all but one stream will have either one or both sides harvested. This degree of timber removal may be unacceptable, considering the erosive soils and the susceptibility of the fisheries resource to sedimentation.

On page 73, it states that a potential of 1200 acres with slopes exceeding 75% are proposed to be harvested. Slopes of this steepness are characteristically very sensitive to disturbance. Extreme caution should be exercised if in fact these areas "may not be a problem at all."

2 On page 38 it also states that "high sediment levels from logging roads have been shown to adversely affect fish, benthic macroinvertebrates, and their habitat. The 369 miles of roads in the recommended action, exceeded only by alternative III, crossing almost 2300 streams will apparently have appreciable effects. This does not include additional spur roads nor rock pits which in the latter case could cause long term problems. A schedule for the maintenance of this extensive road network was not discussed in the draft. In the final EIS, the long term impacts and rehabilitation plans for main roads, the rock pits, and spur roads should be developed.

3 Second, the effects on the fisheries resource from sedimentation have the potential of being serious and may adversely affect the stability of local communities that are heavily dependent on fisheries. Local populations of salmon originate in streams and lakes draining watersheds lying within the 1981-86 study area. "The most productive spawning habitats have an underlying layer of stable, highly permeable, and relatively sediment free gravel." The timber harvesting activities on the sites described in this plan pose a definite danger to the fisheries resource. On page 17, the DEIS states that, "Site specific activities determined to adversely affecting fish habitat shall be stopped immediately and not resume until remedial measures can be prescribed by a fishery biologist or an IDT." EPA agrees with this policy but is concerned about how much correction is possible once damage has been conclusively identified. All practical effort should be made to institute preventive measures before site specific activities take place.

4 Marine fisheries in the many bays and coves in the Study Area will also be adversely affected by tne process of soil sedimentation and by the log transfer systems. Both will tend to smother bottom dwelling organisms and adversely affect others. As presented in alternative 5, on page 53, the Port Camdem log transfer site carries with it an undetermined risk of impairment or damage to these valuable resources. Yet this site was selected for use in the recommended action.

5 In a letter, page 109, submitted by the Fish and Wildlife Service, it is stated that it is environmentally preferrable to facilitate the dispersal of bark debris by locating log transfer sites away from the heads of bays and small coves which lack adequate water circulation. All the proposed log transfer sites in the recommended action are located in or at the mouth of such bays and coves where dispersal of bark appears unlikely. The EIS should discuss the impacts of these log transfer sites in more detail and explain why the bays were chosen over other potential sites.

6 Third, what will be the effects on air quality from the pulp mill at Sitka and the sawmills in Wrangell from the processing of timber from the ALP Timber Sale? How much timber will be processed at the mills before possible exportation? Public concern for odor and visibility problems emanating from the mills is currently high. These secondary impacts resulting from particulate matter standards violations and current progress in reducing emissions should be addressed in the final.

7 Fourth, on the East Kuiu Management Area, the recommended action incorporates alternatives 5, which is stated to have an adequate blend of environmental and economic capabilities. It is apparent, though, that alternative 5 does contain actions that will have detrimental impacts on wildlife, including the location of a log transfer site at Port Camden. Considering the environmental sensitivity of Port Camden, as pointed out above and acknowledged on page 53, locating a log transfer site here does not appear to be environmentally sound. Alternative 6, which is environmentally preferrable because it excludes Port Camden, is not considered because of the length of the trunk road, page 62. Could the trunk be lengthened making this a feasible alternative?

8 Fifth, considering current Congressional restrictions on export of Federal sawlogs, what is the significance of the benefit cost figures on page 63, using stumpage prices based on round log export? If the domestic processing requirements lead to the lower B/C figures on page 63, which for the preferred alternative is only .61, the EIS should discuss the rationale for favoring maintenance or growth of local economies over national economic efficiency. EPA is concerned about this issue because efforts to subsidize local economies have lead to proposed timber harvesting on marginal lands and other areas where environmental damage could result.

9 We are also concerned about the factors that went into the calculation of the B/C ratios. Were potential economic losses to the fisheries industry, and cost of additional spur road construction incorporated in the figure,.61? If not, this figure would be even lower. We believe these additional costs must be part of a valid benefit/cost analysis.

10 Sixth, the plan proposes to invest $13 million over the five year period to harvest 10,185 acres of timber in the marginal component. Timber is usually classed marginal because it is infeasible to harvest due to economic, access, regeneration, or environmental problems. The EIS does not indicate whether these problems can be satisfactorily overcome. Considering the potential damage to important environmental resources, we cannot concur with the decision to include marginal land in the proposed harvest. (We note that the glossary fails to include a definition of marginal land).

11 Seventh, more discussion is needed in regards to the practices involved in the Kelp Bay Management Area. Why is it necessary to haul 30 MMbM over 36 miles along a road across tidal flats and streams? How are the impacts from roads weighted against more log transfer sites? We suggest the EIS include an analysis of the comparative impacts of these methods.

12 Eighth, which methods of timber harvesting will be utilized: skidding, high lead, or skyline? In what percentage of the cases will each method be implemented and what will be the mitigating measures? Skyline yarding would appear to be best in most cases, considering the fragile soils and important fisheries resources.

13 Finally, on page 73, it is stated that "significantly less road will be constructed in the recommended action than in alternative 3." In fact, the difference is 18 miles out of 369, or .05%. This hardly seems significant. Moreover, the impact statement is confusing at times as it uses miles in discussing road length on page 67, while using kilometers in table 19, page 78. The units of measures should be standardized. Watershed area, table 19, is presented in a manner that makes it difficult to determine which units are being used. If the area is presented in square miles, please indicate this in the table.

Conclusions:

As the DEIS mentions, many decisions made in developing the recommended
action are based on interpretation from aerial photographs. On-site
verification and monitoring is needed. But the plan, as presented,
contains many uncertainties and a high potential for resource damage.
A reduction in the cut to exclude the 10,185 acres of marginal land,
14 further study of the Port Camden log transfer site, and the impact on
wildlife in the Salt Lake Management Area would be desirable. Given
present uncertainties and the fragility of the land base, we recommend
a more cautious approach in estimating the level of harvest that can
be sustained in the long term. Other outstanding resources, which
15 perhaps have greater economic importance than timber, such as fisheries
and wildlife should receive more emphasis.

Because of soil stability problems and their potential impacts on
fisheries, the unknown influences of log transfer sites upon marine
life in bays and coves, the unknown results of disturbance to wildlife,
and the planned cut of substantial acreage on marginal land and land
16 with slopes exceeding 75%, we have environmental reservations regarding
the implementation of the Recommended Action. A combination of the
more environmentally compatible alternatives, 3 and 6, would be more
desirable.

The Environmental Protection Agency has rated this draft EIS ER-2. ER indicates that we have "Environmental Reservations" regarding the proposed timber sale plan. The 2 rating indicates that additional information should be provided to improve the quality of the environmental statement. This rating will be published in the Federal Register in accordance with our responsibility to inform the public of our views on proposed Federal actions under Section 309 of the Clean Air Act, as amended.

Thank you for the opportunity to review this EIS. If you have any questions or would like to discuss these comments, please feel free to contact me or Scott Berg of my staff, at (206) 442-4011 or (FTS) 399-4011.

Sincerely,

David Steinborn, for
Roger K. Mochnick, Acting Chief
Environmental Evaluation Branch

cc: Richard M. Wilson, Forest Supervisor
Chatham Area, Tongass National Forest

John F. Butruille, Forest Supervisor
Stikine Area, Tongass National Forest

Response To Letter 12
(U.S. Environmental Protection Agency - Region X)

1. Environmental assessment, monitoring programs, and various resulting management policies are directed toward the objective of reducing or eliminating mass wasting and sedimentation.

Mass wasting potentials are evaluated by a soil scientist prior to management activities. Many potential hazards were identified during the planning process and, where possible, ground investigated prior to developing the Preferred Alternative. Risk areas which have been identified and investigated are removed from timber harvest consideration. Those areas not yet ground investigated are identified on the field forms for later investigation.

The Southeast Alaska Area Guide requires field review of all slopes exceeding 75 percent prior to management activity. The Chatham Area Project Guidelines require field review where roading is anticipated on slopes exceeding 15 percent (clay), 25 percent (ash), and 35 percent (till or other residuals) or timber harvest is anticipated on slopes exceeding 45 percent (clay), 60 percent (ash), or 60 or 75 percent (till or other residual). When areas within these categories are identified during sale layout, the soil scientist is notified and field review takes place. See also letter 1, responses 3 and 33.

Potential resource management conflicts will be resolved by IDT's during timber harvest. Proposed timber harvest in sensitive areas, such as steep sideslopes, potentially shallow thixotropic soils, and in riparian areas, will be thoroughly evaluated prior to harvest and special prescriptive measures implemented. Those sites which cannot be harvested safely may be deleted from planned harvest areas.

Many of the proposed cutting units in riparian zones are not to be included in the timber cruise volume and will be cut only if field reviews determine it is safe to do so.

Beach roads are planned only where alternative locations are not available.

2. Road miles presented in both the draft environmental statement and this final statement include the estimated cumulative miles (main haul and spur roads). Discussion of road storage and road maintenance is provided in the FEIS (see Section III: Transportation). See also letters 2 (resp. 11) and 29 (resp. 6).

   Rehabilitation requirements for all roads and for all borrow pits are provided in the Chatham Area Project Guidelines which are available through the Forest Supervisor's office in Sitka.

3. Sites which represent a high risk for adverse impacts to other resources were deleted from this timber harvest plan. Additional preventive measures will be initiated by field IDT's prior to timber harvest activities. See letter 2, responses 2 and 10.

4. Yes, we realize these potentials and take them into consideration during the planning process, i.e., flushing action is considered for LTS locations.

   Please refer to response number 44 to the letter from National Marine Fisherics Service (#52) for discussion on the Port Camden LTS.

5. Consult Fisheries Specialist Report. We feel the FEIS adequately assesses the impacts of log transfer sites. We selected sites that would be least impacting but still serve the necessary areas.

6. See discussion in Sections II and III concerning air quality and effects resulting from this harvest proposal.

7. All of the alternatives for the 81-86 period on Kuiu Island are selected as a part of a first entry management plan developed for the Kuiu Management Area which is intended to be implemented over a 30 year period. This plan indicated that approximately 240 MMbf was available for a first entry. This first entry management plan was the result of the interdisciplinary process and the team conclusion was that it made no difference environmentally which 81-86 period alternative was implemented. It was recognized that the area was allocated LUD IV by TLMP and that the management direction is to develop the entire area. The selection of Alternative 5 was made because it provides the most flexibility for future management of the area.

8. The entire economic analysis has been rewritten. The benefit cost analysis reflecting round log export in the DEIS was used to show the social cost of domestic processing and show that the timber was worth more on the open market.

The "rationale for favoring maintenance of local economies over national economic efficiency" is beyond the scope of this EIS. This EIS is written within current laws and regulations; these current laws and regulations require domestic processing.

One further thing needs to be clarified in this paragraph. The TLMP decision which allocated lands to other than the full range of multiple uses forced operations to marginal lands. It was not "efforts to subsidize local economies" that did this. In addition, we have attempted to minimize adverse impacts on all lands in this EIS.

9. As mentioned above, the entire economic analysis section has been rewritten.

10. The plan in the final EIS proposes to invest 3.3 million dollars over the 5 year period. Only a part of this is needed to access marginal timber; the remainder is needed to access timber in LUD III areas and to provide adequate measures for management of non-timber resources. Marginal timber is generally uneconomic making it infeasible to harvest. A definition of marginal timber is in the FEIS.

    Omission of the term "marginal" was unintended. The term has been added to the Glossary under the heading "Forest Land Classes."

11. Only 22.6 miles of new road is being constructed. The other 13.4 miles is reconstructed road to the old Hanus Bay camp, including the 300 feet section across the tidal flats. Other alternatives were considered, i.e., a log transfer site in Echo Cove, but dropped from the plan. We feel it is of little value to state that Echo Cove transfer site was considered but not implemented because of impacts on deer winter range and estuarine values. Refer also to response 10 to this letter.

12. All three methods will be used depending on conditions encountered. About 30-35 percent will be skyline logged; however, most of this is because of reach, not problems with the environment.

13. We apologize for the inconsistencies noted in these various tables and sections. Road miles displayed for Alternative 3 in Table 24 (Table 16 in the DEIS) represent miles of road required to harvest 395 MMbm from the Chatham Area. To be comparable with the Preferred Alternative, an additional 62 to 75 miles must be added from Alternatives 4, 5, 6, or 7 to access volume on the Stikine Area. This represents rather than a five percent difference (note that correct figure is 5 percent, not .05 percent), a difference of 22 to 25 percent.

    Your comment on inconsistencies in standards of measurement is correct. The problem has been corrected in the FEIS.

14. The marginal component of the regulated timber is part of the volume that is included in yield calculations for the Tongass Land Management Plan (TLMP).

    A reduction in harvest to exclude the marginal component also implies a major revision of TLMP. This will be done as scheduled at 10 year intervals and at that time the marginal component land will be reexamined.

    The Port Camden log transfer site was the subject of an environmental assessment conducted during 1979, a copy of which is in the appendix to the FEIS. Based on this assessment, Alternative 4 was selected as preferred.

    The wildlife resource was given consideration in design of proposed roads and harvest units in the Salt Lake Bay Management Area, as in all other areas. Activities considered most impacting were adjusted to the satisfaction of participating Wildlife Biologists during this process. The layout included in the Preferred Alternative for this area is considered to pose no greater impacts or risk of impacts than for other areas.

15. Levels of harvest to be sustained on the Tongass were established by the Tongass Land Management Plan. This operating plan has been prepared within the framework of TLMP.

We are starting this year to do a timber re-inventory of the Chatham Area. This will take about three years to accomplish and will result in a statistically sound volume figure for potential yield and will validate TLMP.

One additional thing needs to be clarified; you seem to be saying that we can have timber or fish and wildlife. Our contention is that we can have timber and fish and wildlife and recreation, etc., etc. This is multiple use in its highest form.

16. Your concerns have been considered and incorporated into the development of the preferred alternative.

In dealing with an area as vast and varied as the ALP primary and contingency sale area exhaustive inventory and analysis is not feasible. Rather than await such effort, inventory and analysis is somewhat dynamic in that the intensity of knowledge about given areas is increased as the planning process progresses. In planning for the ALP 81-86 operating period, the initial determinations of areas to be considered and the environmental constraints to be recognized were made using TLMP inventory data, initial harvest areas, facility and road locations were accomplished using aerial photographs, field inventory was used in many cases to develop final planning.

Perceived environmental problems (soil stability, effects of LTS's, disturbance to wildlife, etc.) were recognized at the outset, eliminated if unresolvable and, if retained, subjected to additional scrutiny to develop mitigating measures. As examples: the system of unit prioritization defers environmentally sensitive areas; the LTS at Port Camden was deferred to the future; and oversteepened slopes (over 75 percent) were subject to intensive scrutiny. See also letter 2, responses 2 and 10.

On the surface perhaps, alternatives 3 and 6 may appear to be more environmentally compatible. Further investigation as indicated in the EIS, however indicates that alternative 3 requires considerably higher roading costs and greater possibility of windthrow damage due to smaller units and alternative 6 concentrates activity in a smaller area which may tend to intensify impacts as opposed to spreading the impact over a greater area as in alternative 4. It is our belief that the preferred alternative is actually more compatible environmentally.

13

Lennen Neuman
Box 1414
Sitka, Ak.
99835

Nov 27, 1979

Dear John Sandor:

This is in regard to the DEIS for ALP's
1981-86 logging plan which is to be
used in preparing the final EIS.

The DEIS falls short of being a plan
which is consistent with multiple
1 use and resource protection goals. Our
other resources such as fisheries and
wildlife must also be considered rather
than timber only. It is important to know
the effects of logging on important fish
2 streams and wildlife habitat before it
is too late. Kadashan, being an important
watershed, must not be logged.

It would be appreciated if you would
reconsider some of the areas proposed in
3 this DEIS in order to have a plan
consistent with multiple use.

Sincerely,
Lennen Neuman

Response To Letter 13
(Lennen Neuman)

1. See Letter 37, response 1.

2. The Forest Service fully recognizes the relationships between logging and its potential impacts on fish and wildlife habitats. Fish and wildlife biologists, soils scientists, hydrologists, recreation specialists and landscape architects are employed by the Forest Service to provide the expertise needed to recommend measures for minimizing the effects of logging on various non-timber resources. The timber industry, likewise, has made substantial investments in resource protection measures to make timber harvest as compatible as possible with other resources. More expensive road building standards, more sophisticated logging systems, and modifications in time, duration, and location of timber harvesting and related activities are some of these measures.

3. See Letters 1 (resp. 36), 2A (resp. 2), 26 (resp. 1), 46 (resp. 2), and 50 (resp. 30).

14

Box 1673
Sitka, AK 99835
13 December 1979

RECEIVED
DEC 14 1979
CHATHAM AREA

USDA FOREST SERVICE
Tongass NF -- Chatham Area
Box 1980
Sitka, AK 99835

Dear Sir:

Happy days are here when I find out that the DEIS for AIP's 1981-86 logging plan has over estimated the amount of timber in those areas and is about 175 mbf over their projected need of about 525 mbf. This is fortunate for everybody. Now: conservationists, mill employees and forest service employees can work together to delete and/or defer the valuable lands which they all love.

Now, the Kadashan watershed can be deleted from the current plan
1 and all the Fish Habitat Sensitivity Zones can be withdrawn. Also the
controversal East Kuiu Island can have afew thousand acres withdrawn.

When a sigh of relief can be heard by all because a plan has over
estimated amounts of usable timber, it may be time to rethink the plan.
The fifty year contract is no longer a valid usage of our valuable
forest. The Tongass has so many unique features because so much of it
2 is old growth. With current technology we are finding that the eagles
prefer to nest in this kind of forest and the deer prefer to forage
in it. It is the home of the grizzly and the salmon. An old growth
forest is a unique ecological community which cannot be renewed.

In a time when energy consciousness is a necessarry part of our
lives, it would be in everyones' best interests to log with the least
3 amount of damage to watersheds and other prime habitats. Wasting of
wood must be stopped and dry land log storage must replace storing logs
in the water.

I hope, now that there is land to withdraw that the final EIS makes some needed changes to the plan.

Sincerely yours,

Jane E. Eidler

Response to Letter 14
(Jane Eidler)

1. The excess volume identified by the timber cruise has permitted these adjustments. Harvest in Kadashan has been deferred from the 1981-86 plan. Units totaling approximately 300 acres of Fish Habitat Sensitivity Zones were removed from the Preferred Alternative. Units totaling approximately 2,300 acres were deferred on East Kuiu. See Letters 1 (resp. 36), 2A (resp. 2), 26 (resp. 1), 46 (resp. 2) and 50 (resp. 30) for additional comments on Kadashan.

2. See Letters 1 (resp. 4), 4 (resp. 1), and 37 (resp. 4).

3. There are many more reasons for this in addition to energy. We suggest you read our responses to letters 1 (resp. 17 and 20) and 2 (resp. 6).

15

FEDERATION OF WESTERN OUTDOOR CLUBS

Established for Mutual Service and for the Promotion of the Proper Use, Enjoyment and
Protection of America's Scenic, Wilderness and Outdoor Recreation Resources

President: Winchell P. Haywood
208 Willard No., San Francisco, Ca 94118

Vice President: Florence Baldwin
PO Box 548 Bozeman, Mont 59715

Secretary: Virginia Danke
E 1103 14th, Spokane, Wa 99202

Treasurer: Blythe O. Edwards
4549 E. 53rd, Maywood, Ca 90270

MEMBER CLUBS

[illegible] Audubon Society
[illegible] Washington
Alpine Roamers
Wenatchee Washington
Angora Hiking Club
Astoria Oregon
Berkeley Hiking Club
Berkeley California
Boeing Employees Alpine Society
Seattle Washington
California Alpine Club
San Francisco California
Cascade Wilderness Club
Bellingham Washington
Cascadians
Yakima Washington
Chemeketans
Salem Oregon
Contra Costa Hills Club
Oakland, California
Crag Rats
Hood River, Oregon
Desomount Club
Los Angeles, California
Hobnailers
Spokane Washington
Idaho Alpine Club
Idaho Falls, Idaho
Inter Mountain Alpine Club
Richland Washington
Klahhane Club
Port Angeles, Washington
McKenzie Guardians
Blue River Oregon
Montana Wilderness Association
Bozeman Montana
Mountaineering Club of Alaska
Anchorage Alaska
Mountaineers
Seattle Washington
Mt Baker Club
Bellingham Washington
Mt St Helens Club
Longview Washington
Obsidians, Inc
Eugene Oregon
Olympians Inc
Hoquiam Washington
Olympic Peninsula Audubon Society
Sequim Washington
Palouse Audubon Society
Moscow Idaho
Ptarmigans
Vancouver Washington
Reed College Outing Club
Portland Oregon
Regional Parks Association
Berkeley California
Rimrock Mountaineers
Coulee Dam, Washington
Roamer Hiking Club
Inglewood California
Rocky Mountaineers
Missoula Montana
Santiam Alpine Club Inc
Salem Oregon
Seattle Audubon Society
Seattle Washington
Sierra Club
San Francisco, California
Skagit Alpine Club
Mount Vernon, Washington
Snake River Audubon Society
Idaho Falls Idaho
Southeastern Alaska Mountaineering Association
Ketchikan Alaska
Spokane Mountaineers Inc
Spokane Washington
Summit Alpine Club
Tacoma, Washington
Tahoma Audubon Society
Tacoma, Washington
Tamalpais Conservation Club
San Francisco California
Trails Club of Oregon
Portland Oregon
Wanderers
Olympia, Washington
Washington Alpine Club
Seattle Washington
Washington Kayak Club
Seattle Washington

W. F. O. C.
Est. 1932

State Vice Presidents:
Ginny Wood, Dixie Baade, Alaska
Dan Luten, Martin Litton, California
Cyril Slansky, Idaho
Kenneth Baldwin, Bill Bishop, Montana
Amy Mazza, Nevada
Cornelius Lofgren, Oregon
Ken Gersten, Dan Fischer Washington

Editor: OUTDOORS WEST
Hazel A. Wolf,
512 Boylston Ave E #106
Seattle, Wa 98102

Washington D.C. Representative:
Brock Evans,
330 Pennsylvania Ave S E
Washington, D C 20003

Northwest Representative:
Douglas Scott,
4534 ½ University Way N E
Seattle, Wa 98105

RECEIVED
NOV 29 1979
CHATHAM AREA

P. O. Box 71
Petersburg, Alaska 99833
November 27, 1979

U. S. Department of Agriculture
Forest Service
Chatham Area
Box 1980
Sitka, Alaska 99835

Dear Sirs:

I appreciate the opportunity to comment on the Draft Environmental Statement for the ALP 1981-86 Timber Sale Operating Plan. It is helpful to have an early DEIS since the action proposed will have serious adverse effects on forest resources.

The DEIS leaves many questions as to resource data unanswered. Needed resource studies will not be undertaken until after the plan has gone into effect. The plan fails to protect fish and wildlife, recreational and scenic values or the forest ecosystem. 1

There is a serious bias toward commodity extraction that varys only in degree from one Alternative to another. No alternative is presented that provides for protection of the forest resources. Timber is considered the primary resource with other resources considered only in relation to how much timber must be reserved in order to protect them. 2

I do not consider this DEIS acceptable. Resource data should be compiled, studies completed and a new DEIS prepared that will provide for protection of all forest resources as provided under the Multiple Use Act.

MAJOR ISSUES AND CONCERNS

1. Protection of Natural Resources

The Position Statement of the Alaska Chapter of the Wildlife Society on Forest Practices in Alaska, May 1979 points out:

> "It is becoming clear that under the existing management practice of even-aged silviculture on a 100-120 year rotation, the climax forests of southeast Alaska are in fact a nonrenewable resource."

2.

Protection of Resources--Wildlife

The Wildlife Society Statement continues:

> "This is especially serious because the high-volume, old-growth stands, which are of critical importance to wintering deer and other species, are being harvested in much greater proportion than they occur throughout the forest."

3 A serious defect in this plan is the lack of long-range planning. While this may be only a 5 year operating plan, it is part of a 50 year timber sale and there are roughly 32 years remaining in the contract.

4 We need to know just what interval of time is to be allowed to elapse before second entries are planned near the areas to be cut in the 1981-86 operating period.

5 We need to know what percentage of the old growth forest in a given area, Kuiu Island for example, will be cut over during the contract period? What percentage has already been cut?

For East Kuiu it is proposed that 15% of the operable CFL will be harvested in the 1981-86 operating period. The remaining 32 years of the contract represent a little over six - five year operating periods. If 15% were to be cut in each subsequent 5 year period, we will end up with over 90% of the operable CFL cut during the contract.

6 Since clearcutting will destroy deer habitat for over 100 years, there is no way cut over areas will regenerate sufficiently during the life of the contract.

7 Another area for which we need the above information is Peril Strait. From Sitkoh Bay to Hoonah Sound every bay has already been clearcut. Some of these cuts are massive in size. Some involve entire watersheds. What percentage is to be cut during the life of the contract?

8 The impact of clearcutting on the snngbird population has been ignored. Since logging takes place during the nesting and rearing season, the impact will be considerable. It is also important that the species most likely to be destroyed are insectivorous.

9 Discussions of "displacement" of waterfowl and wildlife populations to more "remote locations" ignores the fact that wildlife are territorial and that where suitable habitat exists it is probably already occupied.

Fish

10 Failure to provide for leave strips on both sides of fish streams is a major defect in the Tongass Land Use Plan as well as in this DEIS. Protection was ruled out because, p. 60:

> "Economic costs result if harvest is deferred from areas of high volume timber to protect wildlife and fisheries resources."

11 Protection of the spawning habitat from siltation, water quality degradation, excessive high and low flows, temperature changes, etc., are far more important than costly programs to enhance fish habitat."

12 Construction of fish ladders, removal of stream debris, lake stocking, lake enrichment, etc., will be of little value if the spawning areas and rearing habitat are damaged or destroyed as they have been in the past.

The recommended action provides that hundreds of acres near critical fish habitat will be clearcut. It is obvious from the text of the DEIS that fish habitat is to be sacrificed for short term economic gains to the timber industry.

13 It is admitted, page 100-101, that: "Fisheries resource trade offs were made in every alternative, due to economic considerations and contractual requirements." There is no discussion of the importance of the economics of the fishing industry in southeast Alaska.

14 In view of the importance of this fishery and the hazard from water storage of logs, the Forest Service needs to seriously address the issue of converting to dry land storage and barging. In spite of the recommendation against log storage in Port Camden by the U. S. Fish and Wildlife Service, a log storage site is provided for deep inside the bay. The Fish and Wildlife Service speaks of Port Camden as a highly productive area that support s highly valuable mixed fishery resource. They point to feeble bottom currents and the danger of bark debris accumulation. It is a shallow area selected with poor curculation and the danger of oxygen depletion and the release of toxic lethal hydrogen sulfide. The conclusion is that "the proposed Port Camden log transfer site is not acceptable..."

The U. Fish and Wildlife Service also recommends that the Fish Bay intertidal storage area should be phased out.

These are two more examples of log storage areas that violate the Forest Service's own guidelines regarding location. Non-conforming areas are not being phased out as provided for in the Southeast Area Guide and new non-conforming areas are being proposed.

Soils

15 Although "numerous high soil hazard areas considered for roading or timber harvest...were deleted" from the Recommended Action proposal, it is admitted that there will be erosion, sedimentation, loss of soil productivity, and this is the basic forest resource.

16 Discussion of the technics for steep slope logging ignores the dependence of slope stability on tree root systems.

Timber

17 While it is true that timber as a crop is a renewable resource, the old growth climax forest of southeast Alaska is not renewable under 100 - 120 year rotations.

18 There is a question here as to compliance with the National Forest Management Act that "silvicultural standards will insure that, generally, stands of trees shall be harvested when mature."

19 There is also a provision that stands of trees within the National Forests in general shall be saw timber rather than pulpwood size before harvesting. 100 to 120 year old trees in the Tongass can scarcely qualify as lumber.

20 One can only conclude that the Tongass is being managed for pulp wood production. Saw timber, however is the wood resource in short supply in the United States.

Recreation

21 On page 47 it is admitted that "...development may deter the recreationist seeking a pristine, undisturbed setting." The same paragraph, however, goes on to speak of opportunities for increased dispersed recreation...from the proposed road access to inland areas.

As a representative of the Federation of Western Outdoor Clubs, I disagree with this statement. Logged areas, or even the pole timber second growth, do not afford the type of outdoor experience that is in demand.

Even if aesthetics is no consideration, the recreationist is first of all quite effectively shut out during the logging period. Once logging is completed one has the problem of a wasteland of stumps, tops, limbs , logs, etc that has to be negotiated before one can reach upland areas. Later, brush and dog-hair stands of trees take over and the recreationist, along with the wildlife, is really shut out.

As for the proposed roads, one wonders whether any landscape management is planned along these corridors for recreational opportunity. Are there to be leave strips? On page 79 we find that:

> "all areas seen from road systems developed in this plan will be managed under the adopted visual Quality objective of Maximum Modification."

Does this mean logging to the roadside? There is an interesting picture on Page 52. A VW beetle is shown on the shore with a scenic bay and peninsula in the background. The foreground shows, in addition to the car, two stumps, what is apparently gravel and logging up to the waters edge.

22 We need to know also what percentage of the roads are to be temporary and put to bed when logging is completed? What roads are to be kept open, and at what cost, to provide the opportunity for those desiring this type of road oriented recreation?

23 What is to be done with the roads that will be used only intermittently during the contract period?

We find also on page 79 the statement that "These road systems are generally located under this plan to facilitate economic removal of timber and in many cases are not always situated to best take advantage of specific recreational points of view..."

24 It really appears that what recreational opportunities there are will be largely limited to residents of logging camps in the area. On East Kuiu, for example, recreation will be largely for residents of Rowan Bay. This, of course, is just a logging camp, a temporary community that will be gone along with the forest of Kuiu Island.

The small boat visitor, traveling off the beaten path, is not considered under this plan. He is apparently not considered as having a need for aesthetic values, quiet, or for a safe, beautiful bay in which to anchor.

The numerous areas proposed for logging in close proximity to the pro-
25 posed wilderness area in Tebenkof Bay could have a very adverse impact on
wilderness values of the area.

26 Air Quality

While the DEIS, p. 12, discusses the problem of sulfur dioxide from the Sitka mill, it gives little indication of the serious nature of this pollution. Another Forest Service publication, "Forest Insect and Disease Conditions in Alaska in 1978" states:

"Trees mear the pulp mills at both Ketchikan and Sitka continue to die." The "foliar analysis of conifer needles near Ketchikan pulp mill showed total sulfur content of needles as high as 4,800 parts per million compared to a background total sulfur of 500 - 700 parts per million." No analysis results are given for trees near the Sitka mill but in view of comparable tree mortality, one would expect similar findings. There is also a report of acid rain, or fallout, on the Sitka mill watershed.

MONITORING

27 Fish

It is good to see that fisheries studies are actually, finally, under way. The problem is that these studies should have been completed 25 years ago before so many streams were damaged and even destroyed. In the case of the streams in the areas to be logged during this operating period, the damage will have been done by the time the studies are completed.

Any cutting near important salmon streams should be deferred unless wind firm buffer strips are left on both sides of the stream.

Wildlife

The Alaska Chapter of the Wildlife Society feels there is strong evidence that clearcutting adversely affects marten, deer and eagles. There is surely enough evidence available from the large acreage already cut over here in southeast Alaska and on Vancouver Island to indicate that present forest management practices are threatening our deer.

To be studying the impact of clearcutting on the deer population while its habitat is being destroyed seems a little futile. On the ground review by wildlife biologists should have been conducted prior to selecting the units to be logged. Key habitat should have been identified, species inventoried and critical areas reserved from cutting.

A 10 year period of monitoring the impact of clearcutting on wildlife will not be adequate to provide needed data. Weather conditions, snow depth and temperatures, can fluctuate during such a short period and mask any changes due to logging.

The experimental small clearcuts may not have the same impacts as those of 100 acres, not to mention the thousand plus acre cuts of the past.

In any event the really important factor will be the percentage of habitat cut, not only during this operating period but in past years and that to be cut during the remainder of the contract period.

28 Soils

One hopes the study of logging on sensitive soil areas will be continued long enough to see the results after tree roots have decayed. Another hope is that similar areas will not continue to be logged until studies are completed.

Economic Criteria

No data is presented to show that economic costs will not exceed economic benefits. We need information on:

Forest Service timber division employee salaries,
Rent, building maintenance, utilities, etc,
Vessels and/or aircraft, helicopters, maintenance and/or charter ,
29 Road construction and maintenance,
Costs of any silvicultural activities, soil stabilization, seeding,

reforestation, stream rehabilitation, etc.,
Programs such as monitoring and research projects related to logging effects and activities.

We need also to know the current stumpage to be paid during this operating period as well as the total expected cash income, in terms of dollars and cents to the U. S. treasury that is to be received from this sale period.

RESOURCE INVENTORIES

Fish

30 East Kuiu illustrates the need for on the ground review by fisheries biologists before areas to be logged are selected. 26 units in the East Kuiu Management Area require further fisheries input. These are on areas adjacent to fish streams or tributaries to fish streams, yet were selected for logging.

Wildlife

Wildlife species should have been inventoried, habitat needs determined, critical winter habitat identified all prior to selecting areas to be logged.

Soils

Soil studies should have been completed before the DEIS was completed and areas identified for logging.

Timber

31 On pages 99 - 100 we find the statement that "overall timber volume and composition of the timber resource on the Tongass National Forest has been inventoried in recent years." It states also that "The most specific knowledge of volume will be obtained when the proposed harvest area is cruised in late 1979." It would seem that this cruise should have been conducted prior to determining the areas to be logged and setting the production goals.

Over the years there have been various reports to the effect that the timber volume in the ALP long-term timber sale area was grossly overestimated. The haste with which ALP moved out of the primary sale area and onto the contingency area on Kuiu Island raised the serious question as to the accuracy of the original estimate of timber volumes in the primary sale area.

On November 29, 1971 when the Forest Service first proposed offering timber on Kuiu Island to replace that in the Chichagof-Yakobi wilderness proposal, I wrote then Regional Forester C. A. Yates and asked why, "after only a little more than 10 years of operation in a 50 year timber sale contract, it should suddenly be necessary to go entirely outside the sale area and destroy these beautiful bays."

32 We are still not half way through the ALP 50 year timber sale, yet logging of the contingency area on Kuiu continues taking one prime bay after another. At the same time, cutting goes on in the primary sale area.

We should know just what volumes have been cut since 1972 from both the primary and the contingency areas?

33 It is interesting to note that while roughly ¼ of the timber volume in the ALP sale area is in the West Chichagof-Yakobi, only a little over 7% is included in standard and special categories and the total of standard, special and marginal is only 18.8%.

ALTERNATIVES

Contractual obligations and continuation of the policy of logging the Tongass to get it into production seem to have been the primary factors involved in formulating the Recommended Action.

34 It is admitted on page 88 that because of "the reduced land base in which to meet economic goals it has not proven possible to avoid timber harvest in all these (sensitive) areas...it has not proven possible to avoid all adverse impacts to the resource values within proposed timber harvest areas."

No consideration has been given to the amount of timber that will be coming from the Native land selections. The number of jobs that will be furnished through native industry employment can more than balance those lost through the "reduced land base." Native jobs will have the added advantage of being jobs for Alaskans who will keep their money here.

According to the Alaska Wildlife Society position paper:

35 "Maintaining wildlife habitat, while at the same time retaining current timber harvest levels, appears to be an impossibility in southeast Alaska."

Therefore, an alternative is needed that provides for renegotiation of the 50 year timber sale contract with modification to the extent necessary to protect forest resources as mandated by the Multiple-Use Act.

As far as possible, logging and roading should be restricted to areas already impacted. As far as possible, logging operations should be moved out of the contingency area on Kuiu Island. To repeat, we are still not half way through the contract period.

Logging operations should be deferred on East Kuiu and in Kadashan during this 5 year operating period. This will give time for the needed resource studies.

36 Cutting units should be designed only after providing for wind firm buffer strips along fish streams, wildlife corridors and identification of critical habitat areas.

37 Alternatives to 100 acre clearcuts need to be explored. Clearcutting is to be used only when it is determined to be the optimum method of meeting multiple-use objectives. Sacrificing all other resources to get the timber cannot be said to be Multiple Use.

Clearcutting is being used in southeast Alaska because it is the cheapest method for the timber industry and "to get the forest into production."

The fact that this "overmature, decadent" forest has other values, particularly as wildlife habitat, needs to be taken into consideration.

To quote from the Bitterroot Report, (A University View of the Forest Service),

"For certainly the idea that clearcutting a forest to 'get it into production' is similar to military rationale of destroying a town to save it."

To summarize, it is obvious from statements throughout the DEIS that there is not enough timber available to meet contractual obligations and provide protection for forest resources. A terrible mistake was made years ago in negotiating a 50 year timber sale contract in the absence of resource data. This mistake should not be continued.

It is also obvious that if logging continues for the remainder of the contract period at the rate proposed for this 5 year operating period, over 90% of the operable CFL will have been cut. This will be catastrophic for fish, wildlife, recreational, wilderness and scenic values.

Therefore, if the requirements of the contract cannot be met at the same time forest resources are protected, and this DEIS indicates they cannot be, then there is no alternative to renegotiation of this 50 year timber sale contract.

Sincerely yours,
Dixie M. Baade
Mrs. Dixie M. Baade
vicepresident for southeast
Alaska
Federation of Western Outdoor
Clubs

cc John Sandor
Max Peterson

Response To Letter 15
(Federation of Western Outdoor Clubs)

1. The Forest Service has numerous resource studies ongoing at this time. These include studies on soil erosion rates, tree regeneration, nutrient transfers in the soil and changes in stream temperatures. Past studies are important to the understanding of the ecosystem and its interrelations as we now know them. Yet we can never know all the answers. We do know that this plan, if soundly implemented as it should be, will provide resource protection consistant with Multiple Use and the intent of NFMA.

2. That there is a bias (that it is serious is questionable) towards commodity management might be expected in that; 1) the areas entered have been identified in the Tongass Land Management Plan as LUD's III and IV for commodity emphasis (LUD's I and II emphasize amendity values while eliminating commodity management) and 2) this is a timber sale plan and is intended to present a timber management plan which provides for protection of other forest resources. Hence, timber may appear as the primary resource, just as recreation would appear as the primary resource in recreation plans.

3. Long range effects were taken into consideration in this plan and in the Tongass Land Management Plan. In fact, the long-range plan had a significant influence on the final selection. For instance, much more intense harvesting could occur in any of the areas planned providing for a much more economical sale. This was not done, however, because among other reasons, lighter entries will provide for greater habitat diversity in the long run, they will be more visibily acceptable over a rotation, they will avoid short duration but intensive impacts but spread the impact over greater time and encourage social/economic stability.

Two things are happening soon which will help to answer your question.
1) The Chatham Area is conducting a timber inventory to give us a statistically sound estimate of timber on the Area. This inventory is starting this year and will take about three years to complete.
2) At the same time the Forest Service and ALP are developing a "life of the sale" plan to give us and you a better handle on where the timber is coming from the remainder of the sale period.

4. The answer to your question depends on where the areas are located. In areas such as Finger Creek or Seal Creek where the roads and log transfer facilities will be "put to bed" it will likely be 30 years or more before the second entry. In areas such as Hoonah, where the road system will be maintained, smaller, more frequent entries are planned. In fact, on such major road systems we expect that small patches of blowdown, etc., will be logged every year.

5. This information was displayed in the DEIS or TLMP.

6. See effects of Implementing Preferred Alternative (d. wildlife) in the FEIS.

7. We cannot answer this. Much of this area has not received thorough enough investigation to recommend how future timber harvest should be accomplished. Even if we had done an investigation, it would be an error to try to dictate this to future generations. We also refer you back to response 3.

8. There will be short-term and long-term adverse impacts to that avifauna dependent on old-growth vegetation for nesting and feeding habitat, such as songbirds. In addition, the long-term impact will be a change in species composition. This change will favor those species associated with early successional stages of vegetation soon after cutting and a gradual decline in numbers and species with time as regeneration of even-aged timber occurs. This topic has been addressed in detail in the Wildlife Specialist's Report.

9. Displacement of wildlife is pointed out as an adverse effect. The multi-faceted ramifications of wildlife displacement, emigration, immigration and physiologic factors contributing to the feasibility of individuals successfully locating elsewhere, is a complex and largely unresearched area of wildlife management. Further information is contained in the Wildlife Specialist's Report.

10. Based on TLMP calculations and reported values, almost all the available timber in LUD's III and IV will be harvested over a rotation if volume requirements are to be met. The decision to harvest streamside is based on: 1) as mentioned in the answer to response #3, impacts are reduced if moderated over time. If we were to avoid these areas at this time and deferred it into the future far greater impacts would result from the final intensive streamside harvest and 2) as mentioned in the EIS, blowdown is a major problem in S.E. Alaska. Streamside blowdown can have an extremely high adverse impact on the fish habitat. Oftentimes, streamside strips are harvested since practicable windfirm edges cannot be obtained. Whether streamside timber will be harvested or not depends on a site specific analysis. See also letter 1, response 25.

11. We agree.

12. Fish Habitat Management Units encompass all portions of a watershed where developmental activities may influence fish habitat. The designation FHMU is a land management planning tool to insure consideration of potential impacts which may occur to fish habitat because of certain logging related activities. We will not allow areas and rearing habitat to be significantly damaged or destroyed under the planned action.

13. The economy of the fishing industry is important and was considered in developing the Preferred Alternative. The discussion was dropped for brevity in the EIS.

14. Fish Bay log storage is conducted under State permit. Before the permit is renewed, the USFS and other agencies will have the opportunity to explore less environmentally impacting ways to store logs (i.e., upland storage). Forest Service biologists are also quite concerned about the impact of log dump operations in Port Camden. Following a special IDT review of the situation, an administrative decision was made to defer the development of an LTS in Port Camden to the future. See also letters 1 (resp. 17 and 20) and 2 (resp. 6).

15. Although soil is a basic resource, it has value only in its capacity to produce a product. In some cases, as in timber harvest, it may be necessary to accept some reduction in the capability of the soil to produce that product when such reduction is unavoidable when utilizing the resource. See also letters 1 (resp. 3 and 33) and 12 (resp. 1).

16. That roots do add to slope stability is addressed in the DEIS (page 36) and in the FEIS.

17. Right, and timber as a crop is not a renewable resource where we manage for old-growth stands or recreation preserves.

18. Trees 100-120 years of age in a managed stand should be 20-30 inches in diameter. This is definitely sawtimber size.

19. Have you seen the old (about 120 years) Russian clearcut above Sitka? That stand is an example of what we can expect a rotation age stand to look like. Those trees do contain sawlog material.

20. All of the timber to be harvested, except the utility timber, is of saw log quality. Some of it is used for saw timber and some is used for the manufacture of pulp. All of it is exported in one or the other form. The availability of that material on the world market has a positive effect upon the ability of the U.S. to import wood products such as building materials and newsprint from foreign markets such as Canada. The world economic picture is complex.

21. The Tongass Land Management Plan (TLMP) process took into consideration through public involvement the types of outdoor experiences that are in demand. These demands were responded by the allocation of considerable portions of the forest to wilderness and roadless classifi-

cation (LUDs I and II) which precluded timber harvest and associated activities. It must be recognized that recreation activities in areas allocated to LUDs III and IV which provide for commodity resource use are going to be subject to the visual and physical presence of timber harvest activity. Some people will choose to recreate in such areas and are willing to accept the presence of timber harvest activity in exchange for the advantages that may be provided by a road system such as: access to interior hunting and fishing areas, access to heads of trails leading to alpine areas, connecting links between saltwater systems, semi-primitive (dispersed) camping sites, cross-country ski trails, berry picking, etc.

It should also be realized that roads accessing timber harvest areas do not pass through a continuous clearcut. A system "trunk" road may pass through or be adjacent to very few harvest units, but provide access to them via spur roads leading to units or groups of units not visible from the trunk road and may in deed provide many miles of relatively undisturbed forest scenery. See also letter 40 (resp. 3).

22. See the Transportation Section in the FEIS.

23. These roads will be put to bed by removing all culverts and bridges and waterbarring, grass seeding and fertilizing.

24. Logging camps contain people who enjoy recreation just as you do or as does the person "travelling off the beaten path."

25. Proximity to wilderness areas is given consideration in developing our visual quality standards.

26. This discussion is presented in the FEIS. See also letter 1, response 42.

27. Fish habitat monitoring activities will be relatively general qualitative assessments of the effects of ALP 1981-86 timber harvest. Research projects being implemented by the Forest Sciences Lab and N.M.F.S.-Auke Bay Lab are designed to more thoroughly assess the effects of logging on certain specific fish habitat parameters. Their research activities are planned at Trap Bay and Salt Lake Bay watersheds.

Actually, many studies conducted over the past three decades document relatively well the qualitative effects of various timber harvest activities on fish and fish habitats. Forest management has had the benefit of these conclusive research findings for more than a decade. The function of undisturbed streamside vegetation is one such forest management tool well-known by the Forest Service. Minimizing windthrow, which can have catastrophic effects on fish habitat, is less easily controlled. Learning to manage for windthrow is one of our most important objectives.

Attempts to identify and retain areas of critical wildlife habitat are incorporated in this EIS. Due to the "state of the art", adequacy of habitat reservations may be questioned; however, we feel that progress is being made. Based on the outcome of proposed studies it is hoped that specific needs of wildlife will be better identified. See also letters 1 (resp. 25) and 15 (resp. 10).

28. We anticipate that this will be the case.

29. The economics section has been rewritten. The remainder of the information you requested is public information and can be obtained from Forest Service offices in Sitka and Petersburg.

30. Stikine Area fisheries biologists have field checked each situation where timber harvest activities have a potential to affect fisheries habitat and have prescribed mitigative measures. By virtue of this action and a commitment to have fisheries biologists present and actively involved in layout of harvest units, roads and related facilities that potentially affect fisheries habitat with subsequent monitoring, it is felt that sufficient protection of the fisheries resource is provided.

31. See response to #3.

32. Figure 1 in the FEIS illustrates that a land base of approximately 514,771 acres of operable CFL is available to meet ALP contract obligations in the Primary and Contingency sale areas after LUD I and II areas, non CFL areas, non-operable CFL areas and pending State and native claims are deducted from an original total of approximately 2,858,373 acres. If one were to estimate an average volume per acre of 25,000 bf on the operable CFL land base of 514,771 acres it would conceivably yield 12,869,275,000 board feet of timber. The total timber included in the ALP contract is 4,494,700,000 which is approximately one third of the conceivable yield. It is critical that we realize the effect of wilderness and roadless allocations as well as State and native land claims on the land base available for timber harvest.

33. We do not understand the point you are trying to make. There is no timber from W. Chichagoff/Yakobi in the 81-86 plan.

34. While this may appear so, it in fact was not the primary factor. Had it been, Alternative 1 could have been selected. However, the statement you address on page 88 (DEIS) is accurate and occurs in the FEIS.

35. Our discussions with native groups reveal that they want the jobs that will be created on their lands to be additional jobs, not "in lieu of" jobs. I also do not understand your point that "native jobs will have the advantage of being jobs for Alaskans who will keep their money here." Nearly all of the jobs now are filled with Alaskans who keep their money here. In addition, the primary manufacture requirement of N.F. timber creates more jobs for Alaskans and more money that remains "here." See also letter 23, response 1.

We have gone "as far as possible" as you suggest. However, to go further with this suggestion would result in an unacceptable impact on other resources so we have entered many new areas, all of which have been allocated to LUD III and IV by TLMP. See also letters 2 (resp. 11) and 29 (resp. 6) for discussion on roading.

36. See letter 1, response 25 and response 10 to your letter.

37. Alternatives to clearcutting are being explored. During the 76-81 period, several hundred acres were partial cut. These areas will be monitored to help determine their effectiveness. There are three areas planned for partial cutting (thinning) this period, one of which is in a deer wintering area. These are generally younger stands that will benefit from a partial cut. The FEIS discusses cutting methods more fully.

Established for Mutual Service and for the Promotion of the Proper Use, Enjoyment and
Protection of America's Scenic, Wilderness and Outdoor Recreation Resources

W.
F. O.
C.
Est. 1932

ident: Winchell P Haywood
Nillard No , San Francisco, Ca 94118

President: Florence Baldwin
ox 548, Bozeman, Mont 59715

etary: Virginia Danke
03 14th, Spokane, Wa 99202

surer: Blythe O Edwards
E 53rd, Maywood, Ca 90270

IBER CLUBS
raliy Audubon Society
Townsend Washington
ie Roamers
natchee Washington
ra Hiking Club
ona, Oregon
eley Hiking Club
keley California
ng Employees Alpine Society
ttle, Washington
ornia Alpine Club
Francisco California
ade Wilderness Club
lingham, Washington
adians
nma Washington
meketans
lem Oregon
tra Costa Hills Club
kland, California
Rats
od River, Oregon
omount Club
s Angeles California
nailers
okane Washington
o Alpine Club
aho Falls, Idaho
Mountain Alpine Club
chland Washington
hane Club
rt Angeles, Washington
Kenzie Guardians
ue River, Oregon
ntana Wilderness Association
ozeman, Montana
untaineering Club of Alaska
nchorage Alaska
untaineers
eattle Washington
Baker Club
ellingham Washington
St Helens Club
ngview Washington
sidians Inc
ugene, Oregon
mpians Inc
oquiam Washington
mpic Peninsula Audubon Society
equim Washington
ouse Audubon Society
oscow Idaho
rmigans
ancouver Washington
ed College Outing Club
ortland Oregon
gional Parks Association
erkeley California
nrock Mountaineers
oulee Dam Washington
amer Hiking Club
glewood, California
rky Mountaineers
issoula, Montana
nham Alpine Club Inc
alem Oregon
attle Audubon Society
eattle Washington
rra Club
an Francisco, California
agit Alpine Club
ount Vernon Washington
ake River Audubon Society
win Falls Idaho
utheastern Alaska
ountaineering Association
etchikan Alaska
okane Mountaineers, Inc
pokane Washington
mmit Alpine Club
acoma Washington
homa Audubon Society
acoma Washington
malpais Conservation Club
San Francisco California
ails Club of Oregon
ortland Oregon
nderers
Olympia Washington
ashington Alpine Club
eattle Washington
shington Kayak Club
eattle Washington

State Vice Presidents:
Ginny Wood, Dixie Baade, Alaska
Dan Luten, Martin Litton, California
Cyril Slansky, Idaho
Kenneth Baldwin, Bill Bishop, Montana
Amy Mazza, Nevada
Cornelius Lolgren, Oregon
Ken Gersten, Dan Fischer, Washington

Editor: **OUTDOORS WEST**
Hazel A Wolf
512 Boylston Ave E #106
Seattle, Wa 98102

Washington D.C. Representative:
Brock Evans
330 Pennsylvania Ave SE
Washington, D C 20003

Northwest Representative:
Douglas Scott,
4534½ University Way N E
Seattle, Wa 98105

15a

P. O. Box 71
Petersburg, Alaska 99833
November 28, 1979

John A. Sandor
Regional Forester
U. S. Department of Agriculture
Forest Service
P. O. Box 1628
Juneau, Alaska 99802

Dear Mr. Sandor:

A copy of my comments on the DEIS for the ALP 1981-86 operating period is enclosed.

While the recommended Action provides for some improvement over past forest management practices such as the reduction in clearcut size, it is still a plan that calls for logging at the expense of other resources.

The most frightening thing to me is the long range impact of these practices if continued to the conclusion of the contract period.

Actually, rather than 90% of the CFL being cut during the contract period if cutting on Kuiu Island continues at the rate proposed for this 5 year operating period, we end up with 110%.

Obviously in the ALP sale area we are just about to liquidate the old growth forest in one 50 year period.

It is really time for a change in management direction and to face the long range impacts of present policies.

Sincerely yours,

Dixie M. Baade

Mrs. Dixie M. Baade
vice president for
southeast Alaska

P.O. Box 1628, Juneau, Alaska 99802

1950

December 6, 1979

Mrs. Dixie M. Baade
Vice President for Southeast Alaska
Federation of Western Outdoor Clubs
P. O. Box 71
Petersburg, Alaska 99833

Dear Mrs. Baade:

Thank you for sending me a copy of your comments relating to the Draft Environmental Impact Statement for the Alaska Lumber and Pulp Company 1981-86 operating period. Your remarks will help the Chatham Area more fully portray and evaluate impacts associated with the proposed operating plan.

Sincerely,

MICHAEL A. BARTON
Deputy Regional Forester

cc: Chatham Area

RECEIVED 16
NOV 23 1979
CHATHAM AREA

Karl E. Lane
REGISTERED MASTER GUIDE & OUTFITTER
P.O. Box 295
Juneau, Alaska 99802
907-586-3822

November 19, 1979 —

Mr. Richard M. Brooks
USDA Forest Service
P. O. Box 1980
Sitka, Alaska 99835

Dear Mr. Brooks:

I have read and re-read the ALP 1981-86 Impact Statement until my eyes and heart are weary and I cannot honestly pick one of the alternatives that seems best for when you read on, what you think you have gained, you eventually lose.

So I will only comment on what I would like to see more of in the management of the Forest. I consider all the salmon streams, large, small and tiny, as being worth more in actual dollars than the beautiful large old growth that shelter them. And no one can convince me that you can cut this timber to both banks or one bank and not damage them forever. The value of the salmon produced during the rotational period makes the sale of the timber a bit ridiculous. 1

I would like to see more and more old growth left forever along the coasts and beaches to protect our wilflife. It is not fair to leave it today and sneak back and cut it tomarrow. 2

I do not agree that the roads should be planned to run so close to the
shores and beaches for this is also the trail area of most game. I am
3 wondering if it will put up with all the racket and commotion and it
becomes too vulnerable to man. I particularly don't approve of that
road through the isthmus of Camden and Pillar Bay.

It seems to me that the Forest cannot possibly survive the onslaught
that is to come with the round log sales of Native timber and the desire
of the industry to expand. I think it would be wise to consider
buying out one of the mills and then manage the forest on a long term
4 method. I cannot help but remember that Kuiu was to have waited fifty
years for the saw and axe and it never made twenty and I am fearful
for the rest of the Forest that it's end will come much earlier than
expected. I am talking only about the old-growth. Second growth to
me is not a forest when it occurs in huge blocks only a few years
apart in age. It can truthfully only be considered a woodlot with
quiet growing trees and not much else.

Sincerely,
Karl Lane
Karl Lane

Response To Letter 16
(Karl E. Lane)

1. The value of all streams to salmon and trout production is well known. Incorporating stream protection zones is an important aspect of the ALP 81-86 EIS (Table 19). Stream habitats determined by on-the-ground surveys to be especially susceptible to timber harvest, will be left uncut and undisturbed. Minimizing risk for windthrow will also be an important objective.

2. Many areas identified as critical wildlife habitat were placed in this retention category. Retention classification was used primarily to protect critical deer winter range and habitat bordering estuaries. Most timber occurring adjacent to shorelines was included in these retention areas.

3. Discussion of road systems has been expanded in the FEIS. Location of proposed logging roads has been developed through the interdisciplinary process. The concerns of participating Wildlife Biologists was a principle factor considered. The isthmus road on Kuiu Island was planned under the last operating period (1976-81) environmental statement. Concerns and issues associated with this road were again addressed in 1977-78 in a review of potential impacts on wildlife. An interdisciplinary team reviewed this area and the proposed road. Members of the team include Forest Service and other Federal resource management agencies, as well as State representatives. The IDT and an interagency-industry task force reached agreement on the construction details and use of the road and on its relationship to the 1981-86 operating plan. The road was constructed in 1979.

4. Native timber harvest and future timber industry projections were factors in preparation of the Tongass Land Management Plan. See also letter 4, response 1.

Nov 27, 1979 **17**

RECEIVED
CHATHAM AREA
DEC 5 '79
Forest Supv
Admin Ofcr
Planning ✓
Timber
RL
Engineer
Watershed
Wildlife
Yak W. C.
Jun W. C.

John Sandor
Regional Forester
U.S. Forest Service
PO Box 1628
Juneau, AK 99802

Dear Sir:

I would like to make a few comments on ALP's
1981-86 Logging Plan and the DEIS your agency
issued in September.

What concerns me most is the fact that the
plan only addresses itself to the 5 year period of 1981-86
and doesn't really consider at all how the 50 year contract
1 must be revised and the volume requirements reduced so
that this beautiful area we live in is not reduced
to thousands of miles of roads, bridges, and culverts
which will seriously affect fisheries and wildlife.

If in reality the volume of timber is not
available to meet the contract and still protect our
2 fisheries which are a renewable resource, then
I think the contract should be revised.

It takes centuries for old growth forests to recover
from clearcutting. Is it worth sacrificing our
3 unique ecological balance that is present in S.E.
Alaska for the sake of meeting 525,000,000 board
feet of timber for a private company who can't even
sell all they cut?

I appreciate your consideration on these points.

Sincerely,
Mary Jo Groom

Response to Letter 17
(Mary Jo Groom)

1. We refer you to letters 1 (resp. 4), 4 (resp. 1), 15 (resp. 21) and 40 (resp. 3).

2. There is no indication in timber inventories on the Tongass or in monitoring the effects of sound logging practices that a choice between utilization of timber or fisheries resources is necessary. See comment on the letter from Richard T. Myren (comments 1, 2, and 3) for further discussion.

3. See letters 4 (resp. 5) and 37 (resp. 4).

18

RECEIVED
[illegible] 3 1979
CHATHAM AREA

P.O. Box 2422
Sitka, Alaska 99835
November 27, 1979

U.S.D.A. Forest Service
Tongass N.F., Chatham Area
Box 1980
Sitka, Alaska 99835

To Whom It May Concern.

In regard to the DEIS for the ALP 1981-1986 logging program, I would like to protest the following:

1) The DEIS is not acceptable because it
fails to present a plan for multiple-use
and resource protection. The plan to clear-
cut 100 acres or more will destroy wildlife
1 habitat for centuries into the future. The
"tree-farm" stands that regrow from such
areas do not support the wildlife that lived
in the previous old growth, multi-age forests.

2) The 50-year contract does not map out
what the total impact will be. The 1981-86
plan is just one little part of it, and what
2 might be borne environmentally for the 5-year
plan might be a disaster when combined with
past and future logging operations

3) The roads which will be built in Southeast
will have a negative impact on the wilderness.
A figure of 1,000 miles of road was
quoted. The Alaska Pipeline road or Haul
3 Road is only 800 miles long and the environmental
impact has been disastrous in
many ways.

If our natural resources other than lumber
are going to be suffering so drastically* the
contract for 525 million board feet should
4 be reduced to a much lower level.

Thank you for your consideration of my
letter.

Sincerely yours,

Eleanor Rittmaster

* loss of wild fowl, deer, bear, eagle and fish
habitat.

Response to Letter 18
(Eleanor Rittmaster)

1. See letters 37 (resp. 1 and 4) and 4 (resp. 5).

2. See letter 15, responses 3 and 7.

3. The road mileage quoted in this letter is in error. The Preferred Alternative proposes 279.9 miles of road, a decrease from the 369 miles included in the DEIS Recommended Action. See also letters 2 (resp. 11) and 37 (resp. 6).

4. See letters 1 (resp. 4) and 4 (resp. 1).

19

JOHN R. SWANSON
P. O. Box 922
Berkeley, California 94701

November 23, 1979.

RECEIVED
NOV 30 1979
CHATHAM AREA

USDA Forest Service
Tongass National Forest - Chatham area
P.O. Box 1980
Sitka, Alaska 99835.

Dear Sirs,

Please accept my Comments, as follows, concerning the ASP 1981-86 Timber Sale Operating Plan Draft Environmental Impact Statement.

This Plan presents every indication that it will be very destructive of wilderness, scenic, fish, wildlife, botanic and cultural resources, resources not only of local and state interest but of national interest, as well.

1 It is becoming increasingly obvious to the American People that this - "our" - Forest Service is primarily a logging agent, selling the nation's rapidly diminishing supply of standing timber at an alarming rate with little or no consideration of responsible forestry principles. and in apparent violation of federal laws mandating the conservation and wise-use of our nations' public forest resources.

This Plan in particular violates the Multiple Use-Sustained Yield act of 1960, the National Environmental Policy act of 1969 and the National Forest Management act of 1976.

2 The ASP Plan could well mean the eventual end of the current commercial and sports fishing industry in this general area and seriously affect the remainder of commercial fishing in remaining Southeast Alaska. as the watershed damage will be severe, at best.

3 Wildlife habitats will be tampered with to extreme and could well mean the end of active deer herds in this area of the Tongass. other wildlife to also suffer such as the bald eagle.

4 Old growth forests will become extinct, or nearly so, as clear cutting was devised to terminate old growth forests and its many biological attributes if even a portion of this Plan is implemented.

5 And this Plan is actually a logging and roading proposal, to fill this plan area with a massive system of interrelated roads to, I assume, simply urbanize this area for no valid reason. To state that in order to clear cut some 28,000 acres about 370 miles of roads are required is nonsense from a civil engineering point of view. And, actually, the construction and initial maintenance of this road system will exceed the financial "benefits" of the total logging plan.

In short, this Plan if implemented will cost much more in environmental and sociological losses than any modest gain by comparison, from the sale of the timber in question. An increasing problem for all federal and state public lands management agencies

6 Clear cutting as has been witnessed in recent decades is the most wasteful of all logging methods, not only destroying all other species of flora in the clear cut area but destructive of all animal life as well as the soil resources. And then to store the logs of such endeavor in the water often so that they disintegrate as to cause fish management problems seem to be negative forestry, in my opinion

7 And the tone of this Plan seems to present the attitude that the Forest Service is primarily indifferent to the overall welfare of this particular national forest; an area unique in the world.

This ASP Plan cannot be accepted as it is an intensive logging plan only, at the expense of all other forest resources.

And as an alternative, I propose that logging be permitted in areas and using techniques that are not destructive, and of a selective nature for local needs only, and to essentially provide proper forestry education and scientific investigation and research. With all forms of logging to have little or no impact on the land, water and air resources of any given area.

Actually, responsible forestry in the area of this Plan should leave all remaining roadless areas intact so that watershed, fish, wildlife, botanic, cultural, scenic as well as wilderness resources are protected and enhanced. With the bulk of these roadless areas protected as permanent wilderness units such as; • Freshwater Bay - False Bay - Whitestone, of some 105,000 acres;
• Mud Bay - Idaho Inlet - Upper Tenakee - Sitkoh Bay - Kadashan, of some 430,000 acres, or, as the Moore Mtns Wilderness;
• Trap Bay - Kook Lake, of some 25,000 acres, • Bay of Pillars - Tebenkof Bay - South Kuiu, of some 365,000 acres.
and Kelp Bay with environs as a Wilderness Recovery area, to be restored to a wilderness atmosphere in areas once logged - roaded, of some 50,000 acres

In addition to wilderness units as protected by law, our National Forest System should have similarly protected areas, such as; Watersheds, Fish - Wildlife habitat areas, Botanic - Forest areas, Scenic and cultural areas. With commercial logging limited to less than 10% of the total National Forest acreage. National Forests for the public good and not for commercial gain.

Sincerely,
John R. Swanson

Response To Letter 19
(John Swanson)

1. See letter 4 (resp. 1).

2. Laws and regulations which must be met by this operating plan provide high standards for protection of all resources, including fishery values. Management principles specified by the Southeast Alaska Area Guide serve to carry these high standards into implementation and monitoring of the harvest plans. Where fisheries biologists, as members of the IDT, have identified need, additional measures to monitor and to protect sensitive habitat are specified in this plan.

3. In discussion of effects of the alternatives, Wildlife Biologists have summarized the assessment of impacts on habitat; detailed analysis is contained in their Specialist Report. Those alternatives evaluated as posing the greatest potential impact are not judged to affect deer populations or other species as this comment suggests. Effects of the Preferred Alternative have been reduced to minimal levels within harvest areas. On the Tongass, as a whole, vast areas of undisturbed habitat remain unaffected and protected by allocation.

Eagle nest trees are avoided under cooperative agreement with the USF&WS (see p. 22). Disturbance of these important sites is not permitted.

4. Please refer to figure 1 in the FEIS for an illustration of the amount of old-growth forests to be retained under LUD's I and II. Include in these the retention areas for LUD's III and IV from TLMP and we feel you will be convinced that the old-growth forests will not become extinct or even nearly so.

5. Roading proposed in the Preferred Alternative is 279.9 miles. An expanded discussion of the transportation system appears in this document (see p. 135-137) and responds to this comment. Additionally, it should be noted that objectives to minimize effects for wildlife, fish, and visual resources are served by dispersed harvest. Concentrated harvest would reduce required road miles and construction costs but increase environmental risk. See also letters 2 (resp. 11) and 37 (resp. 6).

6. An expanded discussion in this FEIS of clearcutting as the primary harvest method responds to this comment.

7. This operating plan has been prepared in conformity with allocation and management direction provided by the final TLMP. Extensive roadless areas were identified by the Forest Service, other agencies, organizations, interest groups, and other participants in that planning process. Multiple use, including timber and other commodity development, is a valid and integral aspect of management in the LUD III and IV areas.

20

UNITED STATES DEPARTMENT OF AGRICULTURE
OFFICE OF EQUAL OPPORTUNITY
WASHINGTON, D.C. 20250

SEP [illegible]

IN REPLY
REFER TO: 8140 Supplement 8

SUBJECT: Draft Environmental Impact Statement, 1981-86 Alaska Lumber and Pulp Company Timber Operating Plan, Chatham and Stikine Areas, Tongass National Forest, Alaska

TO: Richard M. Wilson
Forest Supervisor

THRU: William D. Williams
Associate Deputy Chief
for Administration
Forest Service

In view of the extensive community analysis and public participation process in an area where Alaskan natives constitute a major portion of the persons affected, it appears as if you have adequately identified and taken into consideration the concerns of those persons.

Thank you for the opportunity to review the Draft Statement.

Percy Luney
for JAMES FRAZIER
Director

Response to Letter 20
(USDA Office of EEO - WO)

Thank you for your response.

21

RECEIVED
CHATHAM AREA
SEP 1 [illegible] '79

Forest Spvr	
Admin Ofcr	
Planning	
Timber	
RL	
Engineer	
Watershed	
Wildlife	
Yak W. C.	
Jun W. C.	

Elaine + Eric
cc: Sent to Stikine

DEPARTMENT OF THE TREASURY
WASHINGTON, D.C. 20220

September 11, 1979

Gentlemen:

Thank you for forwarding a copy of the draft environmental impact statement for the Chatham and Stikine Areas of the Tongass National Forest with Alaska Lumber and Pulp Company. This Department has no comment on the Statement.

Sincerely,

Anthony V. DiSilvestre
Assistant Director (Environmental Programs)
Office of Administrative Programs

USDA Forest Service
Tongass NF-Chatham Area
P.O. Box 1980
Sitka, Alaska 99835

Response to Letter 21
(Department of Treasury)

Thank you for your response.

22

Response Form

YOUR NAME, ADDRESS, AND ZIPCODE:

Lean Williams
1401 Martin Rd.
Juneau, Alaska 99801

Dear Reviewer:

YOUR RESPONSE BY DECEMBER 1 will be used in preparing a final environmental impact statement for the 1981-86 ALP operating period. You may use this form, or you may enclose a letter inside this form. When finished with your comments, just detach this page. Fold it in half with the other side facing out. Seal the edges. And, mail it so it will arrive by December 1. This form is preaddressed, and the postage is prepaid.

Some topics you may wish to discuss with us are:

1. THE ISSUES. Please tell us which issues you consider most important to this planning process. If these issues are not adequately addressed in this statement, please identify those additional questions or concerns which the Team should consider.

2. ALTERNATIVES AND RECOMMENDED ACTION. The Team's recommendation is a blend of eight alternatives. We would like to know your thoughts on these alternatives the recommendation, and the process used to develop them. If your concerns are best met by one of the alternatives, please identify it.

RECEIVED
OCT 19 1979
CHATHAM AREA

On your map under Recommended Action you show logging roads coming too close to the beach areas in False Bay- IYOUKTUG region. I would strongly suggest that the road and logging be terminated up the Valley several miles which would be more acceptable as this area is viewed by passengers travelling up and down Chatham straits or cruise ships, ferrys, and pleasure boats. This would also help honor the 1906 claim land which is located in this area.

Response to Letter 22
(Dean Williams)

1. As Table 18, page 127, and unit maps in Part II indicate, this area is among those to be entered only if necessary volume is not attained in planned units 1-292. We anticipate no logging in the Iyouktug drainage during the 1981-86 period.

Specific units of concern were discussed with this reviewer at a public meeting. Landscape architects have reviewed the area and state that the units proposed in the DEIS are not next to the beach and would not be visible from the beach or False Bay. The proposals are all within National Forest boundaries and do not infringe upon Native Claim areas.

23

Response Form

YOUR NAME, ADDRESS, AND ZIPCODE:

Ralph Wells
1001 Noble
Fairbanks, Alaska
99701

Dear Reviewer:

YOUR RESPONSE BY DECEMBER 1 will be used in preparing a final environmental impact statement for the 1981-86 ALP operating period. You may use this form, or you may enclose a letter inside this form. When finished with your comments, just detach this page. Fold it in half with the other side facing out. Seal the edges. And, mail it so it will arrive by December 1. This form is preaddressed, and the postage is prepaid.

Some topics you may wish to discuss with us are:

1. THE ISSUES. Please tell us which issues you consider most important to this planning process. If these issues are not adequately addressed in this statement, please identify those additional questions or concerns which the Team should consider.

My basic objection with
this plan lies with the
original ALP 50-year contract.
I believe that this contract
does not justify itself under
the concept of sustained yield
and multiple use. How
1 many logged areas in the
Tongass will have commercial
stands of timber and pre-
logging wildlife values 50
years later? I think the
economic benefits are accruing
to too few people to justify
the loss of the scenic, wildlife
and tourism-recreation
values.

2. ALTERNATIVES AND RECOMMENDED ACTION. The Team's recommendation is a blend of eight alternatives. We would like to know your thoughts on these alternatives, the recommendation, and the process used to develop them. If your concerns are best met by one of the alternatives, please identify it.

Continuing my line of
reasoning, a no action
alternative would be
most suitable. There
are sufficient doubts
about the validity of
the contract to warrant
a no-action alternative.
Specifically these doubts
2 are well-explained in
the policy statement
of the Wildlife Society,
Alaska Chapter, May 1979,
reprinted in Alaska
magazine September 1979.

In the discussion of
various alternatives,
sums of money of million-
dollar amounts are mentioned
are these amounts U.S.
3 Public funds, or is this
money invested by the
ALP Co.? If these are
public funds, I object
to their use to support
so few U.S. citizens and
a foreign corporation.

3. OTHER COMMENTS. Your comments on all aspects of this plan will assist us in reaching a good decision. You may wish to discuss:

- * Areas proposed for harvest.
- * Resource protection measures.
- * Harvest systems proposed.
- * Public involvement.
- *Transportation plan.
- *Community impacts.
- *Economic issues.
- *Decision criteria.
- * Other issues and topics.

I laud the planning team for only selecting areas from LUD's III and IV of the TLMP. I sincerely hope that areas designated I and II are never roaded or logged.

I have several recommendations for forest management in the Tongass:

1. The annual cut should be decreased to a level
4 compatible with sustained yield. If this level is
not known, research should be stepped up.
2. I would like to see alternatives to clear-cutting
5 seriously explored.
3. Economic benefits to local residents are always
touted as a justification for continued logging
6 I suggest that
consideration be given to
hiring Alaskans for
reforestation and thinning
!!!!!of second-growth areas.

Ralph Wells
21 October, 1979

4. MORE INFORMATION. Detailed reports prepared by resource specialists have been summarized in this statement. A number of these reports are identified in the document. If you would like to receive a copy of any of these reports or other additional information, please identify what you need:

U.S. Department of Agriculture
Forest Service, Alaska Region
Office of Information
P.O. Box 1628
Juneau, Alaska 99802

OFFICIAL BUSINESS
Penalty for private use, $300

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF AGRICULTURE
AGR-101

FA BANKS, AK
OCT 22
PM
1979

RECEIVED
OCT 24 1979
CHATHAM AREA

FIRST CLASS

USDA Forest Service
Tongass NF-Chatham Area
P.O. Box 1980
Sitka, Alaska 99835

Response to Letter 23
(Ralph Wells)

1. The National Forest Management Act of 1976 validated the long term contracts in Alaska and directed that in developing five-year action plans, the Secretary of Agriculture was ". . . to revise such contracts to make them consistent with the guidelines and standards provided for in the Forest and Rangeland Renewable Resource Planning Act of 1974 as amended and to reflect such revisions in the contract price of timber."

This has been done in the preparation of the 81-86 EIS and the contract will be amended to include required changes.

See also letters 37 (resp. 1 and 4) and 4 (resp. 5).

2. A "no action" alternative would not be consistent in light of the above.

3. The dollar amounts you are referring to are investment provided with appropriated funds. Perhaps it would help to explain how timber is appraised. The following is oversimplified but illustrates the process. The value of the timber as some end product (pulp as an example) is determined; then the costs, including a margin for profit and risk, to get it to that point, are subtracted from the value. The remaining value is the stumpage received by the United States. In the rest of the U.S., the costs are low enough (due to many factors such as existing road system, cheaper transportation, cheaper labor costs, etc.) that the timber pays a positive return to the treasury.

In Alaska, we have to pay for the entire road network from the first entry. In addition, laws that require primary manufacture of wood products in Alaska, plus other laws increase costs. These increased costs added to costs for multiple use constraints and the requirement to operate on a reduced land base in Alaska sometimes result in negative stumpage returns. The various alternative investments reflect the funds needed to reach a positive return to the United States. These investment figures are estimates only and will vary by the alternative chosen and the value of timber at the time of reappraisal.

4. We are starting a timber re-inventory of the Chatham Area this year. The re-inventory will take three years and will give us an allowable cut that will be consistent with sustained yield. This is in line with your suggestion.

5. Alternatives to clearcutting are being explored. During the 76-81 period, several hundred acres were partial cut. These areas will be monitored to help determine their effectiveness. There are three areas planned for partial cutting (thinning) this period, one of which is in a deer wintering area. These are generally younger stands that will benefit from a partial cut. The FEIS discusses cutting methods more fully.

6. Economic benefits are an important factor. Although there is not a "hiring Alaskan" law, there is a law that requires primary manufacture within the State. This means that with few exceptions, National Forest timber from Alaska must be at least manufactured into pulp or cants before it can be exported even to the rest of the United States.

24

RECEIVED
NOV 29 1979
CHATHAM AREA

545 E. 4th Ave., #5
Anchorage, AK 99501
November 27, 1979

USDA Forest Service
Tongass National Forest
Chatham Area
Box 1980
Sitka, AK 99835

Dear friends:

I would like to comment on the ALP 1981-86 logging plan. I feel the draft EIS on the plan is unacceptable as it does not reduce the volume requiremnets of the 50 year contract. I feel that the intent of the National Forest Management Act was that these 50 year contracts be revised in order to protect resources other than timber. **1**

2 I also feel that no logging should occur until plans are drawn up for full utilization of the areas clearcut.Sensitive coastal areas should not be subjected to log storage; this should occur instead on upland areas and logs moved on to barges from there.

3 Once the majority of old growth timber has been cut from Southeast Alaska (from Native, State, and National Forest land) there will be a serious long-term change in the ecology of this unique area. This change should be analyzed before the plan is brought before the public.

Thank you for this opportunity to comment.

Sincerely,

David Finkelstein

David Finkelstein

Response to Letter 24
(David Finkelstein)

1. See letters 1 (resp. 4), 4 (resp. 1) and 23 (resp. 1).
2. See letters 1 (resp. 17 and 20) and 2 (resp. 6).
3. See letters 4 (resp. 5), 15 (resp. 1) and 37 (resp. 4).

11/28/79

25

RECEIVED
DEC 3 1979
CHATHAM AREA

Dear Sir:

I would like these comments entered into the record as my personal comments on the preliminary EIS for the Alaska Lumber & Pulp Company 1981-1986 operating plan.

Nicholas P. Mihalow

Nicholas P. Mihalow
3009 S. Kobuk
Fairbanks, Alaska
99701

RECEIVED
DEC 3 1979
CHATHAM AREA

25

ALP 5 year Plan Review

This report contains 130 numbered pages. Of these, better than 10% of the space is completely blank. When you add the area occupied by pictures, 23% of this report contains no information at all. The report is obviously padded to make it look larger and more impressive. 1

Eight seperate alternatives are presented for study and evaluation. They then suggest a combinaton of all eight as the final plan. The reader is than asked to rate the eight alternatives when they have no intention of using any of the eight. 2

The area allocated to wilderness is 7.8 million acres. This is 53% of the area
The area allocated to development is 7.0 million acres. This is 47% of the area. A large amount of the are allocated to development is held back for fisheries, recreation, game, scenery etc.

P11 last sentence. - I have not yet seen a road which was not built by rock overlay.

P21, Column 2, ~~para~~ - Alpine areas are not affected by logging

P22, C1, p3 - This area will not be affected by logging

P.: #3 - This decision criteria, which should be the most important when the national debt is in the billions, was not met by any alternative. 3

P31, C1, para 3 - Road costs are $130,000 per mile because the U.S.F.S. is requiring roads be built to an unrealistically high standard considering the length of use. No alterative produces 2MMbf/mile. 4

P31, Areas Considered - Tebenkof and Bay of Pillors - There are no problems with access or log transfer sites except in the minds of those who wish to block development in this area. A quick inspection of the aerial photos will show this. 5

—A frame logging— A frame logging is a cheap and effecient means of yarding timber. High
6 costs are generated by ridiculous enviornmental restraints.

P32, C1, #1— Skyline logging systems have been tried extensively at Kake and False Island without success. Trees
7 in S.E. Alaska are not deep rooted enough to support this system.
#2— This will eliminate about 1/2 of the commercial
8 timber. Roads could be built to these areas with very little risk or added cost.
#4— Other values are impacted more by multiple
8 entries. Costs are much higher.

P33 — Alt #1 — Will produce 1.89 MMbf/mile. 200 MMbf/mile was assumed as a minimum.
9 — Alt #2 — Will produce 1.33 MMbf/m
— Alt #3 — Will produce 1.02 MMbf/m
P34 — Alt #4 — " " 1.76 "
Alt #5 — " " 1.46 "
Alt #6 — " " 2.10 "
Alt #7 — " " 2.03 "
Alt #8 — No road mileage given. Can't evaluate. This alternative is played down. It seems most sensible.
P36, C1, para 1 — Claims soil productivity will be reduced.
10 C2, para 1 — " " " " increased.
para 2 — Soil is almost always saturated. Brush which
11 follows logging transpires more water than trees

P37, C1, para 2 — Air polution will not adversely affect enviornment 12
13 C2, para 3 — Wildlife increases after harvesting. Any deer hunter knows this.
para 4 — These studies were based on droppings found in cutover & undisturbed areas. Deer feed in cutover and rest in adjacent uncut areas

This is why more droppings were found in uncut areas.

14
P38 – Fish – Many fisheries enhancements projects are made feasible by roading. Many of these have been suggested by logging company personnel. If any have been undertaken by ADF+G, I am not aware of them. U.S.F.S. has done very little

P40, C2, g – All alternatives do not provide 2MMbf/mile. Only
15 2 of 8 do.

P 47, C1, para 2 – Any recreationist should be able to find plenty
16 of pristine, undisturbed settings within the 7.8
million acres allocated strictly to recreation

P 51, C1, para 5 – In 6 years of field work on Kuiu Island I
17 never saw even deer track.

P52, picture – This picture is not from Kuiu Island as its
18 location suggests. There are no private vehicles
on this island.

P53, C1, para 1 – Seals have been seen sunning on log rafts
in Rowan Bay. There are plenty of rocks avail-
19 able to seals.

P63, C1, para 2 – This alternative yields only 1.4 MMbf/mile. A main
assumption was that 2MM/m would be produced.
20 They plan to waste $13,000,000 to harvest
525 MM bf.

C2, para 1 – Unless the U.S.F.S. is planning to allow round
21 log exports this makes no sense. I'm sure

22 P64, Cutting Unit Size - Average cutting unit size is 55 acre. Maximum unit size has been cut from 160 acres to 100 acres. There was never any scientific ~~ratnl~~ rationale for limiting unit size to 160 acres. What is the reason for 100 acre unit size. Logging costs go up dramatically as unit size drops below 100 acres.

23 10,185 acres of marginal timber are planned for harvest. It does not make sense to log marginal timber and thus increase costs when good timber is available at the same costs. Advances in logging technology and rising timber values will make today's marginal timber economical to log on the next rotation.

24 P69, C2, para 2 - Logs from the 1968 blowdown were tested several years ago and found to contain too much rot to be usable.

25 P70, C2, para 7 - Hanus Bay logging camp was only recently closed and cleaned out. A considerable amount of road was also torn out. It seems foolish to reactivate this area for only 30 MMbf when 193 MMbf remains on the area. Considerable cost could be avoided by adding more timber here.

26 P71, C2, last sentence - It would be extremely foolish to haul logs from East Kuiu to Rowan Bay. With the present situation of rising fuel cost and fuel shortages, such a long haul, with so many close dump sites available, is just not within the realm of reason.

P73, C1, para 2 – Loss of soil productivity due to soil disturbance is not proven. Production of Sitka Spruce, the favored species, can be increased by soil disturbance. 27

para 5 - Mass wasting has occured only outside cutting units, away from roads, on Kuiu Island. I cannot understand all this concern over such a slight possibility. 28

29 C2, para 2 - This is guess work at best.

30 #4 - Partial cutting causes more windthrow and is not economical.

P74, C1, para 2 - To the extent that it affects wildlife, these forests are evenaged now.

31 P75, C2, para 4, - Location makes this very unlikely. Better areas are available closer to population centers.

P76, C1, 32 d. Fisheries - This is gobbledeygook. I can't understand it.

C2, para 1 - Getting a fisheries biologist into the brush involves the use of legirons and electric cattle prods.

P79, C1, e – Endless views of endless wet forest soon become boring to ferry passengers. Tourists get excited and pictures are taken when a tow of rafts or a logging camp come into view. Few tourists can recognize a cutover area after it has greened up and I have yet to hear one who was offended by cutover lands. 33

C2, para 1 – 7.8 million acres of land are reserved exclusively for wilderness recreation. Does every acre have to be beautiful to every eye?

para 4 - Only U.S.F.S. personnel have access to vehicles for recreation on Kuiu Island. If logged areas offend them, perhaps they are in the wrong line of work.

34 P81, C1, Para 1 - Skyline logging systems have been tried extensively at Kake with very little success. Trees in S.E. Alaska are too shallow rooted to support a skyline system.

35 P82, C1, Para 1 - Windthrow is more closely related to location than unit size though small units produce more windthrow per acre than large units

36 C2, Para 4 - AL&P Co. has more real expertise than any state or federal agency. Most state agencies make no real contribution and spend all their time looking for something to critisize. ADF&G is worst of all.

P84, C1, para 1 - AL&P Co was purposely excluded from ID studies.

Response To Letter 25
(Nicholas P. Mihalow)

1. The intent here was to encourage more to read the document by improving the ease with which it is read. We had trouble reducing it to make it readable, not padding it to make it more impressive.

2. The statement that there is "no intention of using any of the eight" alternatives is definably incorrect. In fact, in many cases we were hoping more suggestions would be made. One reason for the DEIS process is to poll the public desires. The alternatives presented actually told the public that we can have maximum environmental protection but at an economic cost or that we could provide timber economically but at a cost to the environment. Finally, the recommended action represented the combination which tried to blend the best of all. The alternatives offered allowed the public to tell us whether the environment was more important than the dollar or vice versa. Although it would have been easier to follow had we recommended one of the eight alternatives, the way it was done reflects the real world of planning. Planning is dynamic and ever changing as new information is learned.

3. We appreciate hearing your opinion.

4. Roads proposed for construction are designed to a standard which will meet National Forest management needs. Road standards are governed by FSM and FSH's to reduce environmental impacts.

5. There are potential log transfer sites and access routes in Tebenkof and Bay of Pillars areas. The meaning here is that soon after these aspects were investigated TLMP allocations of LUD I in the Tebenkof area and LUD II in the Bay of Pillars VCU were established and Tebenkof was legislatively designated as a wilderness study area.

6. We feel that protection of the environment is an important feature of this plan and one desired by the public. In addition, that protection is mandated by law.

7. Skyline and modified skyline systems have been successfully used in southeast Alaska in the past. There is every reason to believe they will be a success in the future.

8. We disagree with your contention. Roading costs and environmental risks would be considerably higher.

9. The FEIS provides a better comparison.

10. As stated, soil productivity will be reduced where mass wasting occurs, but productivity (short term) may increase following harvest - where surface disturbances don't occur.
11. We are not aware of any evidence supporting this. While brush species do in fact generally transpire more water per unit biomass than the conifers, the biomass represented (even following logging) is significantly less than that of the conifers.

12. Nor did we say it would be.

13. The studies referenced on Page 37 of the DEIS and of which some are still ongoing, utilize a variety of techniques for monitoring deer use. These techniques include track counting and radio telemetry as well as comparative pellet group counts. The results have indicated a year-round preference for old-growth vegetation. Studies indicate that snow depths approaching 16 inches greatly restrict deer movements and eliminate use of open areas. While deer may use clearcuts during spring, summer, and fall, these are not the critical times of year for the animal. Summer forage does not control deer populations in southeast Alaska.

14. Fisheries enhancement projects are selected for their cost effectiveness and public need. If road access does not offset other cost and need aspects of a project, the project is not selected. Actually, forest road systems have provided numerous opportunities for improved access to enhancement projects. Stream debris removal and a number of project feasibility surveys have been facilitated on many occasions by forest roads. Lack of publicizing these enhancement efforts may be more responsible for your impression.

15. These calculations are being readjusted based upon updated volume estimates.

16. The system of allocation in TLMP is designed to provide a range of recreational experiences throughout the forest. The point made here is that the allocation of an area to development of commodity resources (LUD III or IV) generally precludes an overall pristine and undisturbed setting.

17. Populations are currently low on Kuiu Island. ADF&G biologists attribute this to a series of events, including severe winter mortality and predation. Deer winter range was considered not because of the presence or absence of deer, but because of the potential of the habitat to support deer. Historical records in southeast show that deer population lows and highs occur periodically. Biologists believe that deer on Kuiu Island will respond eventually and will once again provide recreation and subsistence.

18. It is understood that the current operator on Kuiu Island does not permit private vehicles. The photograph you refer to is not meant to indicate that vehicles exist on Kuiu, but rather to indicate that generally roads developed initially for timber harvest purposes can in the future be used for recreational purposes.

19. A research report by the Pacific Northwest Forest and Range Experiment Station (Hazard, K. W. Habitat Selection by Harbor Seals in Tenakee Inlet and Freshwater Bay, Chichagof Island, Summer 1977. PNW, Juneau) indicates that human activity causes seals to leave traditional resting areas. Activities associated with logging camps caused over half of the disturbances, with the remainder caused by a variety of natural occurrences. (In the absence of other information, human activity is viewed as a negative impact.)

20. The 2 MMbm/mile was a basic assumption needed for a break-even sale, not a main goal. It becomes apparent from many public responses that the public is willing to pay $13,000,000 to provide better resource protection. At any rate, there has been a substantial reduction to about $5.6 million resulting from revised volume estimates indicating greater volumes than previously identified.

21. The intent is merely to inform the public of the costs to the government to provide socio-economic stability through primary manufacturing. The entire economics section has been rewritten.

22. The 100-acre size is a result of the updated NFMA regulations (Federal Register, May 4, 1979). Beyond that, the planning team is not in a position to justify it. That it will increase overall logging costs is correct.

23. A portion of marginal timber is included in TLMP calculations of Potential Yield. Some of this portion is in 81-86. Even though it increases costs to log marginal timber, it must be included in the total volume to meet the TLMP potential yield and maintain current jobs. The only other alternative is to overcut the operable timber and hope technology catches up so that the marginal becomes operable before the rotation is over.

24. Our most recent investigations show that some of the timber is still merchantable. Live timber makes up a portion of this area also.

25. You are correct; however, when other resource values are taken into account we feel our proposal is the best.

26. Fuel consumption is a critical planning factor and must be considered. The location of Log Transfer Sites has become an increasingly critical issue. A strong effort is being made to balance such issues in an overall efficient and economical development plan for East Kuiu.

27. We have substantial statistical evidence that soil productivity is reduced where soil disturbance occurs. This is particularly true when the entire duff (organic) layer is removed. We have no evidence that Sitka spruce production is increased on disturbed sites. Although regeneration is often times very high to excessive on disturbed sites, most of these young trees are lost to frost heaving during the first several years. Those which aren't generally (statistically in our sample areas) grow at a considerably reduced rate.

28. Your statement is factual, but implications are inaccurate. Mass failures resulting from roading on Kuiu have not occurred because roads have been constructed on basically level stable ground. However, several failures have occurred within cutover units on Kuiu. There are numerous reasons for concern of mass failures. For instance: 1) such an event if it enters a fish stream creates a large amount of sediment in a short period of time. This can be very impacting to fish habitat and water quality, and 2) depending on the nature of the soil, slide or slip plane timber productivity may be totally lost on site for many years.

29. According to our findings this reduction is significantly borne out in numerous site index studies (see Stephens, R. F., C. R. Gass and R. F. Billings 1968. Soil and Site index in Southeast Alaska. USDA-Forest Service Alaska Region).

30. Partial cutting can cause more blowdown; however, the partial cuts planned in 81-86 are immature stands that will benefit from thinning. The thinning will be done in such a manner so as to minimize the likelihood of blowdown.

31. Mature forests are subject to continual deterioration of individual trees, insect damage, and blowdown. These events create small areas which receive more light and produce forbs and browse while still providing cover from snows.

32. This was covered in DEIS on page 37.

33. It is recognized that timber harvest activity is often an effective way to provide landscape variety. Our concern here is that variety is created within the context of the characteristic landscape and does not appear as an unacceptable contrast.

With respect to recreation opportunities associated with natural wildland experiences the fact is merely being stated that such opportunities are less likely to be fulfilled in LUD IV areas.

The fact that Forest Service personnel stationed in remote areas have limited access to vehicles when available has little bearing on the fact that inland units visible only from the proposed road system will be viewed by relatively few people. The point being made is that visual quality objectives in this area are relatively low because recreational visitors to the area will be few in number for the foreseeable future.

34. See response #7.

35. Your statement is correct.

36. This is not correct. ALP representatives were invited on almost all field reviews and participated actively in the development of the Chatham Area Alternatives. On the Stikine Area frequent contacts were made during the planning process.

26

Response Form

YOUR NAME, ADDRESS, AND ZIPCODE:
RUSSELL HeaTh
BOX 6 Tenakee
99841

2. ALTERNATIVES AND RECOMMENDED ACTION. The Team's recommendation is a blend of eight alternatives. We would like to know your thoughts on these alternatives, the recommendation, and the process used to develop them. If your concerns are best met by one of the alternatives, please identify it.

Dear Reviewer:

YOUR RESPONSE BY DECEMBER 1 will be used in preparing a final environmental impact statement for the 1981-86 ALP operating period. You may use this form, or you may enclose a letter inside this form. When finished with your comments, just detach this page. Fold it in half with the other side facing out. Seal the edges. And, mail it so it will arrive by December 1. This form is preaddressed, and the postage is prepaid.

Some topics you may wish to discuss with us are:

1. THE ISSUES. Please tell us which issues you consider most important to this planning process. If these issues are not adequately addressed in this statement, please identify those additional questions or concerns which the Team should consider.

Corner Bay has asked for an extension of time to finish Indian River. that is ok if Kadashan is [illegible]

Kadashan should not be logged anyway. just leave strips are not enough. logging any of it affects the whole drainage

Russell Heath

Response To Letter 26
(Russell Heath)

1. In response to this and similar comments, harvest in Kadashan has been deferred for the 1981-86 period. The pre-roading and watershed monitoring planned for the 1981-86 period are discussed in the Transportation section of the FEIS. The Forest Service will continue to work closely with residents of Tenakee Springs and others to assure that management of Kadashan is consistent with TLMP direction and responsive to public interest and concern. See also letters 1 (resp. 36), 2A (resp. 2), 46 (resp. 2) and 50 (resp. 30).

27

Response Form

YOUR NAME, ADDRESS, AND ZIPCODE:

GRACE HEATH
BOX 6
TENAKEE 99841

Dear Reviewer:

YOUR RESPONSE BY DECEMBER 1 will be used in preparing a final environmental impact statement for the 1981-86 ALP operating period. You may use this form, or you may enclose a letter inside this form. When finished with your comments, just detach this page. Fold it in half with the other side facing out. Seal the edges. And, mail it so it will arrive by December 1. This form is preaddressed, and the postage is prepaid.

Some topics you may wish to discuss with us are:

1. THE ISSUES. Please tell us which issues you consider most important to this planning process. If these issues are not adequately addressed in this statement, please identify those additional questions or concerns which the Team should consider.

my letter of Sept 28, 1978 to Senator Ted Stevens, with copy to John Sandor, states

2. ALTERNATIVES AND RECOMMENDED ACTION. The Team's recommendation is a blend of eight alternatives. We would like to know your thoughts on these alternatives, the recommendation, and the process used to develop them. If your concerns are best met by one of the alternatives, please identify it.

"... much damage has been done in recent years to some of the salmon spawning streams hereabout --- now I hear ~~that~~ logging is coming to Kadashan, across the Inlet from Tenakee Springs --- The spawning stream at Kadashan is one of the best in S.E. Alaska."

So you ask for our opinions then do as you please! Grace Heath

Response To Letter 27
(Grace Heath)

1. The Interdisciplinary Team has met and worked closely with Tenakee Springs residents throughout this planning process. Management depicted in the Preferred Alternative for Tenakee Inlet reflects substantially the input of this community, including: deferral of logging in Kadashan during the 1981-86 period; avoidance of roading in proximity to the community; maintenance of a single logging camp; and log storage in Salt Lake Bay to avoid sensitive estuarine areas in the upper Inlet. The Forest Service is not aware of any major issue raised by Tenakee residents in association with the 1981-86 proposals which are not resolved by these recommendations.

RECEIVED
CHATHAM AREA **28**
DEC 5 '79

Forest Supv	
Admin Offcr	
Planning	✓
Timber	
RL	
Engineer	
Watershed	
Wildlife	
Yak. W. C.	
... W. C.	

John Sandor.
Regional Forester.
U.S. Forest Service.
Box 1628
Juneau AK 99802

Dear Sir, I would like to comment on the ACP's 1981-86 logging plan. In my view the plan is unacceptable for the following reasons:---

1 1 The plan is inconsistent with multiple-use and resource protection goals,.

2 2 The 50 year contract must be revised & volume requirement reduced so that resource values other than timber will be protected as set forth in NFMA.

3 3 Kadashan, eastern Kuiu Island are areas too valuable to fisheries to be logged.

4 4 Old growth forest is a unique ecological community that must be preserved and the cumulative impacts of removing this resource must be analysed.

5 5 The wasting of wood must stop & dry land log storage & barging of logs should be required.

6 6 Roads must not be built just for the sake of "more roads".

Yours Faithfully

D Groom

Donn Groom, 1302 Sawmill Ck Rd, Sitka 99835 AK

Response to Letter 28
(Donn Groom)

1. See letters 37 (resp. 1) and 2 (resp. 2 and 10).

2. See letters 1 (resp. 4) and 4 (resp. 1).

3. Fisheries values are of major management concern to the Forest Service. The monitoring program in the Kadashan watershed, which will be expanded before pre-roading begins, is one illustration of agency efforts to continually improve information and management practices. All areas to be harvested on East Kuiu have been reviewed on the ground by Fisheries Biologists to develop a harvest plan which is compatible with the fisheries resource.

4. See letters 4 (resp. 5), 37 (resp. 4) and 15 (resp. 3 and 7).

5. See letters 1 (resp. 17 and 20) and 2 (resp. 6).

6. See letters 2 (resp. 11) and 37 (resp. 6).

29

Jack Calvin BOX 97 SITKA, ALASKA 99835 · TELEPHONE AREA 907 · 747-3584

RECEIVED
CHATHAM AREA
NOV 30 '79

Forest Supv	
Admin Ofcr	
Planning ✓	H
Timber	
RL	
Engineer	
Watershed	
Wildlife	
Jak W. C.	
Jun W. C.	
Sumlet	

November 29, 1979

U.S. Forest Service
Tongass National Forest, Chatham Area
Box 1980
Sitka, Alaska 99835

Re: the 1981-86 ALP plan and DEIS.

Hi Ho, Paul Bunyon! The old Timber Beast rides again, ruthless as ever but even more destructive with its new claws and jaws and dozers -- laying waste tens of thousands of acres of the Tongass every year.

But what are those tattered ribbons flying from its neck? Hmm. One says Multiple Use, another Sustained Yield, and still others NEPA and NFMA, but none of them hampers the great beast in its mindless rampage. Neither do the little plastic dolls marked Soil Scientist, Wildlife Biologist and the like. They looked pretty when the beast put them on, but when he charges into the woods in his insatiable quest for timber and still more timber the little figures bounce futilely at the ends of their strings.

The old Paul Bunyon told splendid big lies about his strength and the number of trees he could fell. (He was seven axe handles between the eyes, remember?) The modern Beast is more refined. He now exudes recorded messages as he works, telling lies by double talk and lies by computer. And the biggest lie of all is on the tired ribbon that says It Will All Grow Back Again and Quickly, dear kiddies. But the shocked observer who tried to point out that trees will grow again, in the course of four or five generations of people, but that the Tongass Forest has been some ten thousand years in the making, or, say roughly five times as long as the time elapsed from the present back to Christ on the cross — that observer, I say, would not be heard over the gringing of the Beast's diesel teeth.

Call farmed trees a crop, if you like, but the tiresomely repeated statement that the Tongass is a renewable resource is a lie, except for people who plan to live for a very long time, like hundreds and maybe thousands of years. And the old growth, non-renewable forest is being destroyed systematically and rapidly.

The Forest Service is constrained by law to perpetrate all the gross insults to the environment that make up this DEIS? Nonsense. The fifty-year contract was of Forest Service making, and it would be a splendid act of atonement if the Forest Service were to propose a plan to remake or void that contract. Its total failure to make the gesture clearly indicates its approval of things as they are.

What law diresets the Forest Service to develop a main trunk road in the roadless defacto wilderness south of Port Camden? To log alongside salmon streams? To continue the use of log dumps and water storage? To clearcut key winter deer ranges? To destroy superb areas like Kadashan?

How should the Forest Service change this DEIS to make it acceptable to environmentalists? Don't change a word. Just chuck it in the shredder and start all over. But first read the National Environmental Policy Act, the Multiple Use Act and the Sustained Yield Act. Read them thoughtfully, not for ways to circumvent them, but for meaning. Then if you find, as I am sure you will, that you cannot obey these acts and still produce all that timber, try to find the courage to stand up and say so.

It would profit neither you nor me for me to review this DEIS-plan item by item. Just put me down as a strong advocate of the SEACC position.

Incidentally, I am an admirer of Paul Bunyon. He was a heroic figure for his time, but he and his time are long past, and today's Timber Beast is about as unheroic as you can get. If he can be tamed and housebroken there may still be a place for him. Failing that, he should get the same treatment as a rogue elephant.

Very truly yours,

Jack Calvin

Jack Calvin

cc John Sandor
Max Peterson

Response To Letter 29 (Jack Calvin)

Comment on this letter is provided in one section to avoid interrupting the rhetorical flow!

Discussion of specific issues raised in this letter has been provided in other Forest Service comments, as follows:

Value of old growth forest - See comment on letter from Celia M. Hunter (Comment 4).

Long Term Contract - See comment on letter from Katherine Hazard (Comment 1).

Roading - See comment on letter from Celia M. Hunter, (Comment 6) and SEACC (Comment 11).

Effects of logging on salmon streams - See comment on letter from Richard T. Myren (Comments 1, 2, 3).

Winter deer range - See comment on letter from Celia M. Hunter (Comment 8).

Kadashan - See comment on letter from Katherine Hazard (Comment 4) and Russell Heath (Comment 1).

Other letters and Forest Service comments have also touched on requirements of the National Environmental Policy Act and multiple use-sustained yield principles. We would add to this discussion one additional comment:

Land management under multiple use principles is far more difficult than is public land management for single uses. The task of both protecting and providing for utilization of forest resources is complex. The complexity is compounded by the vast and wonderful variety of resource values included in the Tongass. Within its vast boundaries lie unparalled wilderness, rich fish and wildlife hbaitat, valued mineral and timber resources, remnants of a long cultural history, and much much more. Management of this forest for one of these values, or for a few closely harmonized purposes would be relatively simple.

Because the Tongass is a National Forest, identified and allocated for multiple use, all of its values are recognized. While this is more complex to manage, the important result is that all those who derive benefits from the Forest--as recreationists, as residents of the region, as users of forest products, and others--are served. Many users would prefer to be served to a greater degree, even recognizing that their demands on the Forest would be at the expense of other users. It is the responsibility of the Forest Service to assure that resource protection and resource utilization are properly apportioned, in terms of the capability of the land and in terms of the needs of the American people.

While the metaphors of this letter are both clever and amusing, they miss the significance of the interdisciplinary process which supports the multiple use concept in National Forest management. The two teams responsible for preparing this plan were led by a Soil Scientist and a Landscape Architect.

Membership, as indicated in the list of IDT members, represented a large array of resource specialties within the Forest Service and other agencies. The professionalism, commitment, and credentials of individual team members are, we believe, impressive. Their combined effectiveness, as an interdisciplinary team, has resulted in a harvest plan which is responsible and sound.

As the letters reproduced in this document testify, the Southeast Alaska Conservation Council and other environmental organizations are not fully satisfied with the plan. Neither is Alaska Lumber and Pulp Company fully satisfied. It has been a traditional "in-house motto" within the Forest Service that our proper position was identified by balanced dissatisfaction from polarized publics. In recent years, the cooperative effort to plan and manage the Forest has developed in positive directions and publics once polarized may increasingly meet on common ground. We would hope that our "in-house motto" will eventually become as outdated and as inappropriate as the "timber beast metaphor" has become.

RECEIVED
DEC 3 1979
CHATHAM AREA

30

Box 1797
Sitka, AK 99835
29 November, 1979

U.S.DA Forest Service
Tongass National Forest - Chatham Area
Box 1980
Sitka, AK 99835

Gentlemen:

I wish to protest the implementation of the 1981-86 ALP logging plan. To begin with the DEIS itself is unacceptable because it certainly does not present a plan which is
1 consistent with the multiple use which the

timber industry corp. its management plans espouse. Nor is there a suitable mention of plans for resource protection.

The 50-year Contract obviously should be revised and volume requirements
2 reduced so all resources in addition to timber can be protected in accordance with the National Forest Management Act.

Surely, you are also aware of the damage which can be done to the Kadashan and Kuiu watersheds as a result of the
3 logging planned for these areas. You are also aware, I feel sure, of the impact on the entire old growth forest ecosystem
4 which will result when this timber is removed. How can you possibly expect such a plan to be acceptable to a thinking citizen?

To point out one very specific example of harm done by clear cutting, tonight's Sitka
5 Sentinel points out that, "Losses were heavy in the Sitka Sound Peril Straight area and were approximately three times greater in the vicinity of clear cuts than in old-growth forest area, Johnson added." Conservationists have been carefully researching their concerns for years on the impacts of clear cut logging — surely the Forest Service must be aware of many of these facts!!

Sincerely,

Helen M Draper

copies sent to:
John Sandor
Max Peterson

Response To Letter 30 (Helen Hooper)

1. See letters 37 (response 1) and 25 (response 2).
2. See letters 1 (response 4) and 4 (response 1).
3. See letter 28, response 3.
4. See letters 4 (response 5) and 37 (response 4).
5. See letter 6, response 2. We recommend also that you read the Wildlife Biologists Specialists reports.

31

PLANNING	
Howse	
Belden	
Donnelly	
Fish	
Knight	
Mitchell	
Sunde	✓

13 December 1979

Norm Howse, Planning Officer
USDA Forest Service
Tongass NF-Chatham Area
P.O. Box 1980
Sitka, Alaska 99835

Dear Norm:

Thank you for the opportunity to review the ALP EIS for the 1981-86 operating period. It is obvious that a considerable amount of effort has gone into compiling this draft and a lot of good information is presented. I feel, however, that resources other than timber (e.g. fisheries, wildlife, water, aesthetic, recreation, etc.) have not been given adequate assessment and evaluation. These resources are the mainstay of southeast Alaska's culture, livelihood, tourism, recreation, and traditional way of life. I realize that resource inventories are shamefully inadequate but when resource information is available it has not always been fully utilized in your planning process. As a consequence the value of these other resources is not realized or even known. Thus, the recommended measures to protect these resources are usually inadequate and an inherently greater risk of irreparable damage is allowed.

It is inconceivable to me that true "Multiple Use Management" would even consider logging in some of our major watersheds such as Kadashan Creek and Game Creek without first making an intensive assessment of all their resource values and determining then if there will or will not be a lose in resource values.

The attached discussion of Kadashan Creek is intended to show the importance of one of the other resources and the need for infallible resource protection.

Sincerely,

K V. Koski, Ph. D.
Fisheries Research Biologist

Attachment

The Salmon Resource Values of Kadashan Creek Tenakee Inlet

K V. Koski, Fisheries Research Biologist

December 10, 1979

Kadashan Creek in Tenakee Inlet is one of southeastern Alaska's top producers of salmon, trout, and char. It's tidal flats and adjacent subtidal areas are also very rich and produce an abundance of Dungeness crab, halibut, scallops, and clams. Kadashan Creek is one of the top 30 salmon streams in southeastern identified by ADF&G as having exceptional fishery values; as early as 1962 the Alaska Board of Fish and Game requested the USFS to reserve them as natural areas not to be logged. Unfortunately, several of those identified streams with high fishery values have now been subjected to logging. Kadashan Creek has one of the largest tidal wetlands in the region and it is used extensively by waterfowl, brown bear, and deer. This tidal wetland undoubtedly has a major influence on the productivity of the fishery resources of Kadashan Creek as well as Tenakee Inlet.

In 1978 Kadashan Creek had an escapement of 281,958 pink salmon--46% of the total escapement (614,000) to ADF&G's District 12 which extends from Pt. Howard at the southern tip of the Chilkat Peninsula to Chaik Bay just south of Angoon on Admiralty Island. That figure alone illustrates the importance of this stream to salmon production. Escapement surveys have been conducted on Kadashan Creek since 1941 and actual counts with a weir have been made since 1969. In addition to pink salmon, it is an extremely important producer of chum salmon. For example, in 1971 it had a return of 65,186 chum salmon. It is also a large producer of coho salmon, steelhead trout, and Dolly Varden char. Studies by ADF&G indicate that Kadashan has one of the highest rearing densities of juvenile coho in southeast. Counts are not available for adult coho returning to Kadashan, but a conservative estimate of the stream's capacity would be 2000-3000 fish.

The impacts of logging on salmon production have not been quantifiable for numerous biological and economic reasons; however, most fisheries biologists will agree that it has been detrimental. Logging can result in both short-term catastrophic and long-term subtle changes which can affect both the stream and adjacent estuary ecosystems. The most obvious impacts on salmon, however, are related to degradation of both spawning and rearing habitats through the destruction and/or removal of the riparian vegetation. Impacts on other organisms in the forest/stream/estuary complex that comprises the coastal ecosystems of southeastern Alaska have only been partially described due to our scientific ineptness and ignorance of the critical processes and functioning of these ecosystems. Because of man's culture and livelihood, salmon have readily identified tangible values as well as intangible values. However, salmon are only one component of these ecosystems and it is likely that other organisms with less tangible values are equally or more important ecologically. Regardless, the monetary value of pink and chum salmon to the commercial fisheries can be used to demonstrate Kadashan's importance even though all species and other values such as sportfishing are not considered in this discussion.

With any logging activity in a watershed there is definite risk to the aquatic resources due to impacts caused by roadbuilding, landslides, blowdowns, etc. The more extensive logging is (i.e. the more roadbuilding, the more cutting units, the more cutting next to streams, etc) the greater the risk of damage to fisheries habitat. Fish Habitat Management Units as developed by the Tongass Area Guide and the Fish Habitat Sensitive Zones used in the ALP EIS are specialized management tools intended to minimize this risk. However, by logging 585 acres of FHMU, 40 acres of FHSZ, and a minimum of 2 miles (2.96 km) of streamside during 1981-86, a substantial impact to the fishery habitat in Kadashan Creek is certain to occur (not considering future logging activities into the watershed) and is acknowledged in the EIS. If logging impacts in the Kadashan drainage result in an overall reduction of pink and chum salmon during the timber harvest rotation period, what will this cost amount to in terms of dollars to the fishermen and in disturbance to the ecosystem? We know from various studies that the production of fish and timber are not entirely compatable since they share much of the same watershed resources. Some losses to the fisheries resources will occur with attempts to maximize timber production from an area such as Kadashan.

For illustrating the monetary importance of the fisheries resources of Kadashan Creek and the potential long-term cost of damage to that resource, we can realistically assume a loss of 10 percent in pink and chum salmon production. Kadashan Creek has an average escapement of 115,756 pink salmon and 25,598 chum salmon per year (Table 1). At a probable commercial fishery harvest rate of 50 percent, Kadashan produces on the average about 230,000 pinks and 50,000 chum annually. The average exvessel price to the fishermen for pink salmon has averaged about 35¢/lb. (1974-78) and for chum salmon 63¢/lb (1976-78) ("Fishery Statistics of the United States"). The average weight of pink salmon for southeast in the Juneau-Sitka areas is 3.8 lbs. (1967-77) and for chum salmon about 9.8 lbs. (1973-

77) (ADF&G Catch and Production Leaflet). Based upon this information the estimated annual commercial value to the fishermen of the total Kadashan run is about $305,900 for pink salmon and $308,700 for chum salmon. In actuality those fish escaping to the stream to spawn are more valuable than those caught and should reflect a much higher price per pound or per egg laid since they are an insurance for perpetuating the run. If we project the present pink and chum salmon values over the predicted 125 year timber harvest rotation period, this amounts to $38,237,500 and $38,587,500 respectively. These are gross estimates because of the time frame but are not unrealistic. If one were to consider the value of the salmon roe, inflation over a 125 years, and increased future demand for high quality protein sources, etc., the projected value of these salmon would be considerably higher. Thus a risk of a 10 percent loss in fish production could conservatively amount to $7,682,500 over the entire rotation period or about $61,460 annually. Can the USFS, by permitting logging in the Kadashan watershed, guarantee or prove that such a loss or that perhaps even a greater loss in production will not occur? The risk would be greatly reduced if the 585 acres of FHMU were not cut and were managed principally for fish as intended by the Area Guide concept. The cost to the logger by not being allowed to cut the timber in the FHMU may be estimated from current stumpage fees and logging costs by using the following assumptions: (1) that the volume in these FHMU at Kadashan is 50,000 bd.ft./acre (higher than average because of their proximity to the stream); (2) that the composition is 50 percent

Table 1.--Kadashan Creek Salmon Escapements (Weir Counts).

Year	Pinks	Chums
1969	52,429	14,446
1970	151,337	32,183
1971	108,925	65,186
1972	87,552	45,893
1973	103,706	35,781
1974	91,591	27,478
1975	34,455	6,369
1976	64,512	14,612
1977	116,849	18,308
1978	281,958	9,325
1979	180,000	12,000
	$\overline{X}$ = 115,756	$\overline{X}$ = 25,598

spruce and 50 percent hemlock with a combined stumpage value of $70.00/1000 bd. ft.; (3) that the logging cost is about $180.00/1000 bd. ft.; and (4) that the Ponds Log value (i.e. stumpage fees plus logging cost) represents the value of the harvested tree to the logger. Multiplying the Ponds Log value by the estimated volume/acre gives a total value of $7,312,500 for the timber in the 585 acres of FHMU for the 125 year period. A decision to not harvest that timber in the FHMU to protect other renewable resources would result in an estimated loss of $7,312,500. That amount, however, would be more than equalled by the estimated value of pink and chum salmon resources maintained by avoiding the inevitable habitat destruction within the FHMU The overall value to the public in maintaining habitat quality in the FHMU is really much greater than indicated by the savings of pink and chum salmon resources alone. Numerous other resource values (i.e. other fish species, wildlife, water quality, quality, aesthetics, and recreation) would be maintained at full value throughout the duration of the rotation period if logging in the FHMU is avoided.

Since it is evident that Kadashan's fishery resources are valuable, that there are risks of fisheries losses associated with logging, and that the recommended alternative acknowledge that there will be logging/fisheries conflicts, the draft ALP EIS for the 1981-86 operating period presents an unacceptable risk. For a logging plan to be acceptable in Kadashan or any of the other systems to be entered during 1981-86 operating period, it must show that there will be no environmental damage to the fish or their habitat and that significant environmental irreversibilities will not occur. A realistic assessment of all forest resource values (i.e. timber, fish, wildlife, recreation, water, etc.) must be available in the EIS for each watershed area in order to justify single resource use and to show how degradation of these other resources will not occur.

Response to Letter 31
(K.V. Koski)

Your informative comments concerning the DEIS for the Alaska Lumber and Pulp Co. 1981-86 operating plan, are appreciated. The display of Kadashan's well known fisheries values is timely.

We would like to point out some inconsistencies between your economic evaluation and that provided by NMFS concerning Kadashan. Using the same basic data, you projected an annual commercial fisheries value for pink salmon of $305,900 and for chum of $308,700; NMFS reported these values to be $152,950 and $159,250, respectively.

More important, we wish to point out that "pond log" values, comparable to an "average exvessel price" to fishermen, currently is $341.41 per thousand board feet.

Using your rationale the timber value of Kadashan (excluding retention) is $955,948 per year or $119,493,500 over your projected 25 year rotation. ($341.41 per Mbf pond log value x 2.8 MMbf per year = $955,948).

The rotation period will probably be 100 years rather than the 125 you project. This will affect both the fishery computations as well as the timber calculations.

We also cannot agree that a 10% loss in fish production is "realistic." As presently planned, the effect on the fish habitat will be minimal.

The point we are trying to make is not that the timber is more valuable in Kadashan than the fishery, but that we can have both timber value and fish value.

A recent decision was made not to include timber harvest in Kadashan in the "Preferred Action" alternative for 1981-86. Only road construction is to occur in Kadashan during the 81-86 operating period.

When Kadashan is logged, most likely to begin in the 1986-91 operating period, all resource protection standards for LUD III areas will be implemented.

32

Date – Nov 25, 1979

RECEIVED
DEC 3 1979
CHATHAM AREA

TO: USDA FOREST SERVICE
Tongass Nat'l Forest – Chatham Area
Box 1980
Sitka, Alaska 99835

RE: ALP 5-yr plan – EIS comments

FR: Connie Barlow
811 Basin
Juneau, AK 99801

The management (ie: logging) plan as expressed in the draft EIS has a number of problems. Most of them stem from a lack of creativity, I suppose, in managing this tremendous national resource.

The building of roads for the sake of having roads went
out of fashion long ago. You don't need roads to manage
1 a forest. Roads are only an incentive to mismanage
a forest. Yes, some are necessary if you plan to log, but
let's strive to minimize them. How about getting a little
more creative in log storage & transport? Not only does
saltwater storage & transport mess up the beaches &
2 bays, but it wastes wood. What a difference it is to
kayak in a non-logging transport area & be able to walk
the beach than to try to haul a boat up above high tide
on a beach strewn with huge logs. I spent a miserable
half hour doing just that on a beach at the South end
of Admiralty. Imagine what the deer go through that have
to live in those areas?

I understand you'll be allowing heavy logging in
Tenakee Inlet & Port Frederick. If I lived in Tenakee, I'd
raise a real ruckus. Granted, you have to log somewhere, but
I think you ought to rethink going into Kadashan creek
drainage. The Hoonah to Tenakee circuit is a classic
kayak trip a lot of us Juneauites take. I did it
about 2 years ago & was sadly surprised to see so
many clearcut scars on the Tenakee side. The sounds
of some sort of mining activity booming on the Hoonah
3 side near the portage destroyed the tranquility of the
back bays. It's a neat area, but with all that, it
doesn't even come close to providing a recreational
experience like, say, kayaking E. Admiralty.
Seems I plan my trips each summer frantically
trying to see all these magnificent places by
kayak before they completely go down the tubes.

4 How about re-negotiating the long-term contract?
Then you wouldn't feel obligated to go into prime
areas like Kadashan Creek & E. Kuiu? How about
finding ways to make it attractive for natives to
sell their timber to local mills? Just on the
basis of the spirit of competition & free capitalism
you are justified in looking at that old-fashioned
exploitive-mentality contract. Dr. Matt Berman did
an excellent study of the skewed bidding practices.

Let's get with the times, folks! Let's get creative, and onward with the spirit of capitalism!

Response To Letter 32 (Connie Barlow)

1. See letters 2 (response 11) and 37 (response 37).

2. See letters 1 (response 17 and 20), 2 (response 6) and 8 (response 3).

3. Planned harvest activity in Tenakee Inlet will be reduced from 1976-81 harvest levels. Harvest has been deferred during the 1981-86 period for Kadashan.

   It is true that LUD III and LUD IV areas are not managed to provide the tranquil and pristine recreation setting which the reviewer has enjoyed on Admiralty Island (LUD I). TLMP allocation establishes roadless management (LUD I and II) where recreationists can expect to find these undisturbed settings in the coming decade.

4. See letters 1 (response 4) and 4 (response 1).

33

Box 97
Sitka, Ak 99835
Nov. 27, 1979

RECEIVED
CHATHAM AREA
DEC 3 '79

orest Spvr
dmin Ofcr
Planning ✓
Timber ✓
RL
Engineer
Watershed
Wildlife
ak W. C.
Jun W. C.

John Sandor
Regional Forester
U S Forest Service
P O Box 1628
Juneau, Ak 99802

Dear Mr Sandor:

This is to comment on the DEIS on ALP:
1981-86 Logging Plan. Difficult as it is to
wade through the verbiage, it is obvious that
the plan is unacceptable if one views it as only
one-tenth of the planning which is
1 necessary to cover the contract's period. No
attention has been focused on results from
past logging and that which ~~must~~ occur in
the future if the contract is to be satisfied.
It is this cumulative result that must be
considered

I would like to particularly object to the
inclusion of the Kadashan watershed. This
valuable fisheries area will produce
2 many times more dollars over the years
as a spawning area than as a one time
logging area.
Thank you for your attention to these
comments.
Very truly yours,
Margaret Beard

Response To Letter 33 (Margaret Beard)

1. See letter 15, responses 3 and 7.
2. See letter 4, response 4.

34

Nov. 28, 1979
Star Rt. 2716 HPR
Sitka, AK.

RECEIVED
DEC 4 1979
CHATHAM AREA

USDA Forest Service
Box 1980
Sitka, AK.

Dear Sirs,

I am writing this letter in concern about the DEIS
for ALP's 1981-86 logging plan. In reading portions of
and summaries of the plan, I find that several aspects
of the plan are deficient. Particularly, I am concerned
with the effect of large area clearcutting upon the
resource itself as well as the effect it has on wildlife.
1 It must be realized that climax, old-growth forests
are actually *not* a renewable resource, that the
newer even-growth stands will be an inferior product.
The plan does not acknowledge this fact or address itself to
the elimination of this resource. Moreover, the impact of
2 clearcutting on wildlife is not ~~ade~~ adequately covered. Deer,
in particular, are one major wildlife resource that research
has proven do not adapt to second growth areas, instead
finding inadequate food and hence a decrease in their population.

I'm also concerned about the choice of selections, which seem to focus in on prime salmon spawning streams, such
3 as Kadashon drainage. While timber harvest is essentially a one-time resource (with second-rate products renewed, possibly, every several decades), the salmon fisheries are yearly renewable. I believe we must all take the larger perspective and decide which type of resource must be given priority – regardless of our particular governmental affiliations. Salmon *do* spawn in *forest* areas, after all.

Thank you for your attention to my concerns.

Sincerely,
Lance V Packer

Response To Letter 34 (Lance Packer)

1. We take exception to your comment on "an inferior product" for our second growth stands. There are many uses of timber products -- too many to elaborate on. Of these, some qualities are improved with normal second growth stands while others are reduced. It all depends on the intended use. (See also letters 1 (response 1), 4 (response 5), and 37 (response 4).
2. See letters 4 (response 5) and 37 (response 4 and 8).
3. See letters 7 (responses 1, 2, and 3) and 4 (response 4).

35

12/4/79

RECEIVED
CHATHAM AREA
DEC 5 '79

Area Ofcr
Planning
Timber
RL
Engineer
Watershed
Wildlife
Yak W. C.
Jun W. C.

USFS
Chatham Area
Box 1980
Sitka, Alaska 99835

Dear Sirs:

In my opinion the DEIS for the ALP 1981-86 logging plan is unacceptable. It simply fails to
1 address the long-term impacts of clearcutting and roadbuilding on the Tongass National Forest.

Specifically, I am very discouraged to think of the damage that will be done in the Kadashan

2 area. It is inconceivable to me that logging and roadbuilding will be allowed in such an important salmon producing area.

Thank you very much.

Sincerely,

Don Muller
Box 1042
Sitka, Alaska 99835

CC: John Sandor, Max Peterson

Response To Letter 35 (Don Muller)

1. The TLMP discusses long-term impacts of timber management and road building. (See also letter 15, response 3 and 7.)

2. Logging in Kadashan has been deferred to subsequent entries although road building will take place during 1981-86.

   One point in your letter needs to be clarified. You seem to be saying we can have timber or fish. Our contention is that we can have both timber and fish. This is multiple use. (See also letters 1 (response 36), 2A (response 2), 26 (response 1), 46 (response 2) and 50 (response 30).)

36

UNITED FISHERMEN OF ALASKA

MAILING ADDRESS & OFFICE
197 SOUTH FRANKLIN ST
JUNEAU ALASKA 99801
907 586-2820

Sharon Macklin
Executive Director

RECEIVED
CHATHAM AREA
DEC 5 7

Forest Sup
Admin Ofcr
Planning
Timber
RL
Engineer
Watershed
Wildlife
Yak W. C.
Jun W. C.

November 29, 1979

PLANNING	
Howse	
Belden	
Donnelly	
Fish	
Knight	
Mitchell	
Sunde	✓

Richard M. Wilson
Forest Supervisor
USDA Forest Service
Tongass NF-Chatham Area
P. O. Box 1980
Sitka, Ak. 99835

Dear Mr. Wilson:

I have just had an opportunity to review the draft environmental study for Alaska and Pulp Company's 1981-1986 operating period and would like to comment regarding the impact on the Alaska fisheries.

1 According to table 13 of the statement, all alternatives will have a negative impact on fisheries. Unfortunately there did not seem to be any follow-up on the relative impact of the recommended action.

2 I feel that it is imperative that the study and final recommendations take into careful consideration any adverse effect which might be caused to the Alaskan fishery industry.

Please include U.F.A. in future mailings regarding this study.

Sincerely

Sharon Macklin

Response To Letter 36 (United Fishermen of Alaska)

1. Relative impacts of the recommended action are dipicted in Table 13, Page 60 and on Table 18, Page 77 of the D.E.I.S. Table 19, Page 78 displays the results of the Recommended Action on fish habitat in various watersheds.

2. The Forest Service is cognizant of the effects of logging on various resouces and, along with the timber industry, has made substantial investments in measures to minimize impacts of timber harvest. Included in these efforts are complete staffs of fish and wildlife biologists, soils scientists, hydrologists, landscape architects and recreation specialists, as well as foresters and engineering personnel. The timber industry has absorbed substantial costs in the form of increased road construction standards, more sophisticated logging systems, and restrictions on time, duration, and location of various timber harvest activities for the principal purpose of resource protection.

RECEIVED
CHATHAM AREA
DEC 5 '79

Forest Spv	
Admin Ofcr	
Planning	
Timber	
RL	
Engineer	
Watershed	
Wildlife	
Yak W. C.	
Jun W. C.	

37

Backwoods Trail
Star Rt. #20972
Fairbanks, Alaska 9970

November 25, 1979

USDA FOREST SERVICE
Tongass National Forest - Chatham Area
Box 1980
Sitka, Alaska 99835

Dear People:

Comments on Draft Environmental Impact Statement
on Alaska Lumber and Pulp Company 1981-86 Logging Plan

Thank you for giving the public an opportunity to comment on the above DEIS on the logging plans for the Alaska Lumber and Pulp Company for the period from 1981 through 1986.

From my point of view, the DEIS is not satisfactory as written, and I base this criticism on the following points:

1 1) The major emphasis of the logging plan is on the production of a certain volume of timber from the areas outlined in the plan. Other aspects of true multiple-use management of these portions of the Tongass National Forest are de-emphasized and ignored. The planned method of obtaining this enormous
2 volume of timber is straight clear-cutting, with no provision for requiring the firm to explore other methods of timber removal.

3 2) The logging planned is being done under the 50-year-contract awarded to ALP which is based on an estimate of timber volume which disregards other National Forest values in favor of maximum volume of log production. This 50-year contract needs to be revised and the volume figures reduced as much as necessary to maintain the other values integral to multiple-use management principles: watershed protection, wildlife and habitat protection, fisheries, recreation, wilderness, etc.

4 3) The value of old growth forests cannot be minimized. They consist of uneven aged timber stands intermingled and provide for a complexity and balance of ecological systems impossible to maintain in even-aged monoculture "tree farms" which are visualized as succeding the present old growth forest. Retention of large stands of old growth forest areas are essential to maintain the ecological diversity and productivity of these areas.

5 4) Present wasteful logging practices must be corrected because they contribute to the felt need to overcut the Tongass National Forest. I am particularly critical of continued salt-water storage of cut logs in very fragile and sensitive bays and inlets, where toxic bark kills off many forms of marine life. I am also critical of the present system of rafting logs to the mills; both barge transportation of cut logs and the requirement for chipping at the logging site and subsequent barging of the chips would minimize wastage and protect the vulnerable marine environments of our bays and inlets.

6 5) The plans proposed visualize the construction of too many miles of logging roads. Road construction in itself can be highly destructive, particularly where it contributes to soil erosion and subsequent stream pollution which is harmful to the fisheries. Secondary effects of unnecessary road construction include the impacts of traffic, noise and disturbance upon wildlife, as well as increased hunting pressure.

7 6) Nowhere in the DEIS is there a compilation of impacts over the period of duration of the present oontract. Many of the effects of logging are cumulative, and what might be acceptable as a short term impact becomes intolerable when extended over the life of the contract. It is important for the U.S. Forest Service as the manager of the Tongass National Forest to assess this type of cumulative impact, and, if means to accurately assess such damage are lacking at present, to defer those actions which might contribute to such damage until the facts are better known. Research in this area should be a priority project for the Forest Service.

8 7) Wildlife must surely suffer with the clearcutting of their winter range visualized in these logging plans. It has been clearly demonstrated that deer and other wildlife thrive in old growth forests but die off through lack of suitable habitat in clear cut areas, even years after the cutting. Destruction of wildlife on this scale is intolerable, and must be prevented, even at the expense of not cutting critical habitat areas. Timber volume is not the only value to be considered in these decisions.

9 8) Stream drainages are extremely valuable in fisheries production, and their protection is essential to the continued production of the salmon which are the basis of the fishing portion of Southeastern Alaska's economy. To permit one use of the lands within the Forest to destroy another use is a violation of the multiple-use concept. In this regard, I must request the elimination of the Kadashan watershed from the logging plan. The Kadashan watershed produces a high volume of pink salmon plus other varieties. Disturbance of this watershed by logging will inevitably result in siltation of salmon-producing streams, and quite probably other physical changes which would affect salmon production. 10

Please place this letter among the public comments on which revision of the Draft Environmental Impact Statement for the ALP Logging Plan for 1981-86. will be based. I would like to be kept informed of progress in the revision of the DEIS and notified when the final EIS has been drawn up.

Sincerely,

Celia M. Hunter

Celia M. Hunter
Backwoods Trail
Star Rt. #20972
Fairbanks, Alaska 99701

Response To Letter 37 (Celia M. Hunter)

1. Allocation established by the Tongass Land Management Plan serves Multiple Use management principles, providing substantial commitment of land areas and resources to both amenity and commodity management. Within the areas allocated LUD III or IV, where commodity development is emphasized, numerous and significant restrictions on development activity exist in the form of laws, regulations, policies, and guidelines for resource protection. In these areas, therefore, multiple use objectives are met. Multiple use management may be more evident in LUD III and IV areas, where active management of all resources is apparent due to interdisciplinary planning efforts required by timber harvest activity. In LUD I and II areas where commodity or market resource activities associated with timber harvest are either not permitted or severely restricted, active multiple use management is not as apparent.

2. An expanded discussion of clear-cutting, as proposed in this operating period, is provided in the FEIS.

3. See Letters 1 (response 4) and 4 (response 1).

4. The value of old growth forest is not minimized by the Forest Service. This value is well protected under TLMP LUD I and LUD II allocation and retention in LUD III and LUD IV. Additional effort to maintain ecological diversity and productivity of these areas, including provision for the habitat needs of dependent fish and wildlife species, is represented in the Preferred Alternative. This includes location, spacing, and timing of harvest to reduce impact in any single area at the time of harvest and in the long term as uneven-aged second growth occurs.

The Forest Service does recognize, in accord with this response, that with the established land allocation there will be intensive harvest in some locations, in lieu of any harvest in others. While resource protection measures will be taken, the long term management goal in harvested areas may well be to maximize and, where possible, accelerate the regeneration of timber for subsequent commercial harvest. See also Letter 4 (response 5).

5. See Letters 1 (response 3 and 33) and 2 (response 6).

6. The potential impacts of roading, including effects on soils, water quality, fisheries, and other resources is discussed in the FEIS (Section III). Additional information is provided in Specialist Reports which are available upon request to the Forest Supervisor offices in Sitka or Petersburg. Expanded discussion of the proposed transportation system and anticipated long-term management of roads is provided in the FEIS, as well. The Forest Service is well aware that the effects of road construction are a major consideration in development of a harvest plan; the interdisciplinary process used to develop roading proposals was as extensive and thorough as that used to develop proposed timber harvest units.

It should be recognized that miles of proposed logging roads is closely correlated to the harvest plan which these roads serve. Road mileage in this plan could be significantly reduced if the harvest plan were more concentrated; the effect, however, would be larger cutting units more closely spaced with a resulting increase in impact of timber harvest for those areas entered. The recommendation of the interdisciplinary team is to increase road miles (and costs) in order to disperse harvest over a greater land area in a pattern of small cutting unit. The benefits of this proposed harvest plan to fish and wildlife and to visual resources are evaluated in discussion of each resource (See Sections II and III). See also Letter 2, (response 1).

7. See Letter 15, (responses 3 and 7).

8. Deer winter range was the principle factor used to identify areas for retention within the VCUs to be entered during 1981-86. Harvest proposed in identified winter range is minimal and may be further reduced, based upon field investigations which will precede implementation of the plan. To assure that this important habitat was adequately protected, the interdisciplinary team began the process of developing proposed cutting units with a system of aerial photo and map overlays. Wildlife biologists

and other resource specialists "red-lined" those areas to be avoided before any harvest unit layout was begun.

9. Protection of spawning and rearing habitat is a major commitment of the Forest Service in any management activity proposed or undertaken. See comment on the letter from Richard T. Myren (Comment 1, 2, and 3).

10. See Letters 1 (response 3b), 2A (response 2), 26 (response 1) 46 (response 2) and 50 (response 30).

38

Richard F. Billings
P.O. Box 1479
Sitka, Alaska 99835
December 9, 1979

Forest Supervisor
Chatham Area
P.O. Box 1980
Sitka, Alaska 99835

Dear Sir:

Attached are my comments on the ALP 81 - 86 DEIS. I am in somewhat of a unique position since I was involved in all the inventory and most of the planning phases as the Chatham Area Watershed Program Manager until June 15, 1979, when I resigned. I wish I had the time to offer more constructive critisism, but that's much more time consuming than just being critical, and I'm finding little enough time for the latter.

1 Anyway, I find the DEIS basically uninformative, misleading as far as portraying the planning processes that took place, and blatant in its omissions or cover-ups of known and potential impacts. Strong words, but I fought against just that sort of problem all during the planning process and apparently to little avail.

I've enumerated a few obvious problems, some minor, some serious, in the following. There must be many more I've not remembered or never knew about. One loses faith rapidly - but not necessarily permanently.

Page V. Para. 2 "The purpose is ..."

2 The development of this DEIS - the ground rules under which the IDT operated; the alternatives that were developed and also discarded under the original ground rules; the disparity between the planning procedures used by the Stikine and the Chatham Areas; the changes in ground rules (The Decision Criteria) after the development of initial alternatives; the very real struggle the Chatham Area had in locating enough volume for this entry; the loss of an entire (1978) field season's work by the IDT in checking actual units on the ground using boat and helicopter support; etc.; - none of this appears in the DEIS. Most of all, it does not display or offer, any means that enables the publics to have a feel for or a measure of the impacts of implementing any alternative on the land. 3 The DEIS fails to meet its primary objective - in fact, it glosses over or covers up (sometimes subtly; often blatantly) actual impacts or facts.

2

Page 6. Col. 2, Para. 2.

4 This entire document gives what I shall call a misleading impression of available CFL and, 100 year rotation volumes. I assume these are TLMP volume estimates and not known volume figures. I know the problems the IDT and field support groups encountered in trying to ground-prove the initial entry units in the field season of 1978. The volume just wasn't there. This is the information, incidently, complete with unit rec-

ommendations and on-site assessment, which required an entire
field season to accomplish that has apparently been lost. By
displaying volume figures or percentages based on data as faulty
for the Chatham Area as TLMP has proven to be may be a legal
5 data presentation in one sense, but an extremely misleading
and, I believe, unethical presentation so far as informing the
public on the facts as you know them to be.

Most of the areas deferred from entry were done so because of
6 a sparcity of volume. Let's admit it now and begin to pave the
way for what we all know lies ahead.

7 Page 11. Soils.

This paragraph speaks of poorly drained mineral soils. Not so. Poorly drained soils in Southeast Alaska are organic soils (muskegs).

Col. 2 Sentence 1.

Please elaborate on "shallow nutrient cycle" - an interesting concept.

Para. 2.

Misuse of the word erosive - happens twice in this document. Sandpaper is erosive - soil is readily "erodible".

Page 14. Para. 1. "Muskegs or poorly drained sites..." Synonymous - poorly drained sites are muskegs.

Page 30. Decision Criteria.

For the first 2 years of the 81-86 planning process, the "musts"
were "shoulds", and visa versa. That makes one big difference,
and it affected team decisions on how they developed and
8 analysed the alternatives on the CMA. This should be explained -
a can of worms, but it happened and was the constraint, along
with the 2 MM bf/mile of road minimum the team had to operate
under.

Page 31.

As this DEIS is written it basically tells the truth, but in a
9 CYA manner, so that the inferred meaning is often not the real
meaning. The only way to know is to be privy to the privy.

For instance, in the process to formulate alternatives, the
2 MM bf/mile of road is mentioned but it's true weight is not
explained. This was given to the IDT as the minimum vol/mile
that they had to achieve before an alternative would be
9 accepted by staff. Many of the areas listed on this page as
being omitted from consideration were done so primarily because
there was insufficient volume left to meet this constraint.
Admit it! Then your publics will have a more realistic picture
of the struggles faced by the CMA - IDT and better prepare the
way for what lies ahead.

Page 54.

I have frequently used the group of islets to be consumed by
10 the proposeddump site in Port Camden as an all-weather anchorage.
In 1969 I watched an eagle raise a family in a nest on the small
islet where the dump will sit. Is this nest no longer in existance? I see no mention of it.

Page 60.

Where is the analysis of the R.A. for comparative purposes?

Page 63.

11 This entire section is weak and needs beefing up and clarifying for the lay reader. I doubt if many people know anything about IMPUTED values - I sure don't. Define if useful, or omit.

Page 64. Reducing cutting unit size to meet new standards.

12 This bothers me. I realize it happened very late in the game and all involved were surely anxious to be done. However, logical, sound clearcut units must follow natural boundaries - which is what the IDT spent much of their previous time trying to accomplish. To arbitrarily reduce these units, especially by dividing them with a leave strip, and then expect them to be wind firm, logical units severely taxes credibility. I know some units did not receive support of any of the IDT, but they apparently represented the least of several evils. You expend the equivalent of ½ page listing the revised units, waste 2/3 of a page with nothing, and make no mention of the technical difficulties and hazards such an exercise necessitates.

One of the arguments against Alt. 3, the most enviornmentally sound alternative, was that it tended to promote blowdown - and that was utilizing, I assume, logical unit boundaries. I can imagine what the blowdown ratings must be for these divided units. Spell it out - don't leave it for our imagination - or the first major wind storm.

Page 73. a. Soils

13 The Alt. 6 and 7 mentioned in the first paragraph refers to the CMA - IDT's Alt. 6 and 7, of which the public knows nothing. It does not refer to the Alt. 6 and 7 in this DEIS. What happened to these original alternatives - they were certainly a part of the planning process?

Silviculture.

14 The silviculturists speak of minimizing (that wonderful escape word) blowdown potential in most units. What about the remainder? Which units, how much volume is endangered, how serious is blowdown to soil erosion, regeneration, sedimentation, what soils are involved, on what slopes, how near streams, wildlife corridors, seen areas, etc? How can we understand what we're buying into with such nebulous statements? Quantify - don't "minimize".

15 Table 17.

Rearrange column headings to clarify - poorly designed.

Page 75. Col. 2. Para. 4.

Sentence 1 makes no sense.

Page 76. d. Fisheries.

Paragraph immediately preceding should be placed beneath this subtitle.

Col. 2. Freshwater Bay.

16 This is an example of what I mean by misleading the public through the omission of data necessary to assess impacts. Here, I believe, is the only mention of the Seal Creek full bench road. It is listed as a Fisheries concern, but how much of a concern and why? It is a full bench road in CLAY SOILS - and that should make it a concern to everyone. Spell out the possible impacts, don't let them slip by so sneakily. What about the Lower Game Creek Bridge - and all the other concerns? How can you expect a positive and helpful response when you give nothing with which to work?

Page 77.

17 The names used on several creeks are not, to my knowledge, accepted USGS names. They bespeak very strongly of Neil Newlund and gang. At least use names that are worthy of the honor - "grapefruit"? "apricot"? "bataan"?, really now!

18 Table 18.

How can you display impacts for the R.A. that in many cases exceed the tolerability limits indicated by the enviornmentally sound alternative by 100% without defending or offering a basis to assure the impacts will indeed be acceptable?

for instance:	Alt. 3	R.A.
% of Watershed Cut	7.0	13.7
Length Stream Cut·2 sides	2.6	8.0
% Stream Cut·2 sides	1.3	3.8
Length cut · 1 or 2 sides	16.0	36.0
% Cut · 1 or 2 sides	8.0	17.0
	etc.	

19 Page 81. Monitoring Requirements.

This really concerns me now that R-10 is reverting to Ranger Districts (at one hell of an expense to the public in more ways than $). If, in the reorganization, specialists are pulled from their present area-wide positions and placed under the D.R. - quality control, monitoring, inventory (other than timber), research-type studies - all will go by the board.

R-10's only hope of advancing in land management standards and knowledge is to keep the specialists in fully manned Forest-wide pools with monitoring, inventory, and study jurisdiction over the entire area.

A specialist removed from his counterparts, and not under the guidance of a staff or project leader trained in his specialty, is just another "timber beast". He becomes a figurehead only - which is what many in the Forest Service desire, and one of the big reasons R-10 is reverting to Districts.

So what can be done in this light?

1) Maintain the integrity and jurisdiction of the specialist groups (ie. Watershed, Fisheries, etc.), and

2) Attach officially to this DEIS, the field forms that have been created for each unit identified for the R.A. which document all specialists concerns on a unit by unit basis. Unless this checklist becomes a legal part of this DEIS, there is no assurance it will be followed - or that it will survive the fate of so much of the previous data for this DEIS that has been lost. I see no mention of the existance of this checklist (field forms), yet it is one of the positive outcomings of the CMA-IDT effort. Don't let it slip through the cracks - or be lost, tossed or shredded.

3) Attach to this DEIS, the updated Chatham Area Project Guidelines so that they also become binding for the duration. I again see no mention of these guidelines, yet they were initially conceived and introduced in a timely manner so they would become a part of the 81-86 operating period. They most certainly will

not be utilized by most District Rangers unless they do carry legal weight. Since they represent the current state-of-the-art in land management and are dynamic rather than static, including them with this DEIS will further demonstrate the Forest Service's committment to resource protection. Conversely their omission would also be diagnostic.

20 Page 34. Public Involvement.

The purpose as I understand P.I., is to inform the public of the merits and adversities of a proposed action, receive and employ their knowledge and concerns in defining and redefining the situation, and end up with a better product more acceptable to all.

I know much effort was expended on the village areas in which I was not involved. I did attend the public meetings in Sitka on this DEIS. There I received this draft statement, the miniscule maps of the alternatives and saw copies of some of the specialist's reports. Nothing more. From that I was expected to respond. You people have lived and breathed this DEIS for 2 years - and been payed to do so. Your publics come at their own expense and cannot afford the time necessary to dig out the inconsistencies, fallacies, truths from untruths, etc. given only the above information.

Watershed and, I believe, most other support programs on the CMA (Wildlife, Fisheries, L.A.) went to great length and expense (including O.T. and priority changes which affected the entire field season) to prepare 1"/mile colored mylar overlays depicting the impacts of each cutting unit on their resources. These were designed primarily to explain the planning process to the public and other agencies and to enable anyone to visualize the basic impacts and tradeoffs. These stress overlays (watershed prepared them for hazard soils and land forms, and soil productivity) should have been displayed and explained at these public meetings. That is the only way I know of enabling the lay publics to visualize the complexity of the planning process, the vast amount of information that did go into the preparation, its shortcomings and tradeoffs and the impacts of implementation.

These overlays could have been displayed on the stage of the Centennial Building, along with a concise factual report by each specialty outlining their inputs and concerns, perhaps supported by slides showing potential impacts. Then, given adequate publicity on TV, radio, etc. to draw a knowledgeable audience, some understanding of this proposed action would be achieved. That would be public involvement or what followed would be. Why not? We used to do it that way with good results. You can take the heat, because basically you've done a great job. Just display it, the good and the bad, and then listen and document.

7

All Pages.

The manuscript writers initially rejected the specialist's reports because they were too negative and voluminous. Then you waste at least a quarter of each page, and in many places
21 entire pages are blank or consumed by meaningless (and often insulting) drawings and other nonsense. Actual informative photographs with identifying captions are very useful. Take this space to add meat to the document, and dispense with the goodie-goodie whitewash.

Another comment concerns the blending of the Chatham and Stikine efforts - I have no suggestions, but this is obviously a Chatham product with token contributions from Petersburg. Some of this could be handled by expanding the specialists inputs on that area, but I'm not sure how important that is.

Stikine had the resource inventories in advance (Chatham did not) so their product lies more gently on the land. Also, their
22 landforms are not as sensitive as Chatham's nor were they forced to struggle as much for volume. So the weight of the defense lies on Chatham's shoulders - and it reads as such.

The lesson in the above (for the Chatham area) is to keep the inventory teams functioning with Forest-wide jurisdictions, and control so you are prepared for the next 5 year operating period-and beyond. Don't disband these teams under the guise of reorganization, hoping the R.O. will pick up the ball. You've got them rolling - keep them so.

I am most concerned by what all of this means. Since I was on the payroll during most of this DEIS preparation, I was somewhat able to track what was happening. Even so, I have had one hell of a time finding any of that information in this document, and have had to read between the lines and add my own knowledge of situations to make even this cursory critique. I still have no basis to truly weigh impacts of the R.A.

23 So how can I have any faith, on the next go around, when I am
truly "just another one of your publics"? Will I be able to
take the DEIS at face value, understand the planning process as
far as necessary, and come up with an honest understanding of the
proposal? No, I can have no faith and neither can anyone else,
unless this DEIS is completely and honestly rewritten to lay it
on the line just as it is. Emphasize the hazards and adverse
impacts, as well as any mitigating practices. We all know that
there are very few real benefits to the landscape from timber
harvest. Most impacts are negative, and your jobs are to reduce
24 their severity to an acceptable level and give them fair play in
public documents.

For instance, in the case of this EIS, point out the potential for permanent resource damage from the Seal Creek full bench road. Explain why it is necessary to take this risk. Display the discrepancies between known, suspected and TLMP timber volume figures. No one has walked over more of Southeast Alaska than I, and we all at the ground level know "it ain't there, pardner". If you don't start publically now your office or your District replacements will be the eventual scapegoats, not the R.O. or the W.O.

Attach the field cards and be sure all specialists concerns are noted for each unit.

24 Explain the problems the CMA faced in trying to locate the volume necessary for this five year period. To do so 1200 acres of oversteepened slopes will be harvested; many impacts will exceed the acceptable level indicated by Alt. 3 by over 100%; 10,000 acres of marginal timber (36%) were included; units abut snow avalanch tracks, streams, and V - notches; full bench roads in clay soils are planned above streams; an entire ridge is scheduled for harvesting in the name of reduced blowdown hazard; and $13 MM are needed to make this volume available. What is it going to take next time?

It's no wonder your publics have no faith. If they only really knew! And it's not really necessary. The specialists (foresters, engineers, landscape architects, scientists ...) are, for the most part, the best professionals in the business and are doing a tremendous job against impossible odds. They don't deserve the stigma created by documents such as this nor does the image of the Forest Service. No agency or group I know of in Alaska approaches the Forest Service in deserved credibility, resource knowledge or dedication to their jobs. So let it all hang out and you can only come out on top.

In closing, I apologize somewhat for the caustic tone that permeates this critique. Hopefully, it will be taken positively rather than personally. It has been written hastily but with feeling. I shall await the final EIS with positive hopes. Don't let your publics down.

I request that this letter become a matter of public record in response to the ALP 81-86 DEIS.

Sincerely,

Richard F. Billings
Watershed Specialist

RFB/sa

Response to letter 38

(Richard F. Billings)

1. We have tried to correct this impression in the FEIS.

2. This information has no relevance to the final plan.

3. Every effort has been made to provide information that will aid the reader to measure the impacts of the alternatives. The complex issues involved and the wide range of viewpoints taken by the public have made it difficult to simplify the EIS to the point that each person or group will feel that their interests have been considered. Your comments are appreciated and have caused us to scrutinize and rewrite many portions of the DEIS.

4. The latest cruise seems to indicate that sufficient volumes of timber do exist in the planned harvest area. The cruise data was carefully checked several times and there seemed to be no evidence of error. The concern of the Forest Service relative to correct resource data is best illustrated by the fact that the Chatham Area will be conducting a massive and area-wide timber reinventory over the next three years.

5. TLMP data is considered to be reliable, however, it must always be used with the understanding that it is not "in depth" data and any indication that it is not reliable should be investigated. TLMP data has been used in this context for ALP '81-86 planning purposes.

6. The reasons for deferrals listed in the "Areas Considered" section are accurate as stated. Although economics were considered, this was not the determining factor except, as noted, for Range Creek.

7. Thank you. These corrections have been made in the FEIS.

8. There may be a certain amount of confusion during the early stages of the planning process. There are many people and issues involved and initial criteria and direction may be revised or refined as the reality of the situation evolves.

9. Early in the planning process, seemingly arbitrary guidelines may be set to provide initial direction. As the process unfolds it may be necessary to adjust guidelines in the light of new or refined data or data relationships.

10. Development of an LTS in Port Camden has been deferred to a future operating period. Environmental aspects, logistics of development and economics influenced this decision. Please refer to item 2 under East Kuiu Management Area in the final EIS Description of Preferred Alternatives for a complete explanation of this decision.

11. This was redone in the FEIS. Hopefully, it will be more understandable to the public.

12. Blowdown problems were recognized and given primary consideration in the reduction process. As you may note in the EIS, reductions were not made where windfirm boundaries could not be obtained. All of the units meet current regulations.

13. Reference to Alternatives 6 and 7 are editorial errors. The Chatham Area did not develop alternatives identified as 6 and 7.

14. See response #17 to ALP.

15. These corrections have been made in the FEIS.

16. The Seal Creek Road omission was in fact an oversight and not an attempt to mislead. This oversight has been corrected in the FEIS. As for the Lower Game Creek bridge, we have no evident problems beyond those normally encountered with long span bridges.

17. Your objection to several creeks being referred to by names that are not accepted U.S.G.S. names is recognized. We have eliminated such reference in the FEIS. The creeks involved were unnamed and are not ADF&G numbered streams. Stikine Area fisheries biologists named these creeks only for positive identification during inventory, field analysis, and planning. The names were not meant to be permanent.

18. Alternative 3 was developed to illustrate an environmentally sound approach that assured protection of resources beyond a doubt. The Recommended Alternative is a more practical approach that assures reasonable protection of resource that is considered to be within the spirit of applicable laws, directives and guidelines.

19. Monitoring requirements are difficult to prescribe and it is even more difficult to assure that they will be carried out and the results applied to improve future situations. Regardless of its organizational structure, the Forest Service is committed to follow through with required activities and to put each specialist in a position from which he can most effectively function.

20. Your criticism and suggestions are well taken with regard to public involvement. We, and public agencies in general, have much to learn about the art of presenting our activities to the public. We believe that a strong and basically adequate public involvement effort was made, however, we realize that in the area of public meetings and presentations, we must be constantly on the alert to determine and respond to the situation at hand in such a way as to assure understanding.

21. The specialists contributing manuscript for the EIS were requested to be concise in developing their descriptions of what would likely occur as a result of management activity. The objective was to develop a document that was to the point, and understandable. The layout of the Draft EIS was accomplished using current Federal guidelines. The objective of these guidelines is to produce a more readable and understandable document. Compliance with such guidelines is required, however, we are attempting to improve many situations typical of those which you and others have mentioned.

22. You are well aware of the difficulties in blending the Chatham and Stikine Area inputs. We believe that this was accomplished over the course of the planning effort and will continue to be refined as field layout of harvest units and roads is completed. Differences were those of timing.

One of the most critical objectives is to build a strong and complete planning data base. We will strive to accomplish this objective as efficiently and quickly as possible regardless of organizational structure.

23. Your comments relative to the orderly flow of information and straight forward presentation of adverse impacts in the DEIS are appreciated and reflect a concern of the IDTs. We have attempted to rectify this situation in the FEIS.

24. Your comments relative to the realities of planning and assurance that the public is aware of all situations and problems are appreciated.

39

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
REGIONAL OFFICE
ARCADE PLAZA BUILDING, 1321 SECOND AVENUE
SEATTLE, WASHINGTON 98101

November 28, 1979

REGION X
Office of Community Planning
and Development

IN REPLY REFER TO:
10C

Mr. R. Max Peterson, Chief
Forest Service
U.S. Department of Agriculture
Washington, D.C. 20250

Dear Mr. Peterson:

Re: Draft Environmental Impact Statement
1981-86 Alaska Lumber and Pulp Company
Timber Operating Plan for the Chatham and
Stikine Area - Tongass National Forest
Southeast Alaska

We have reviewed the subject document and find that our areas of concern, namely impacts on housing, community facilities and the local economy, are adequately covered.

Your statement indicates potential impacts in these areas, however, the local communities are involved in the planning process, thus they will be able to plan to mitigate adverse impacts.

We find no objection to the recommended action plans.

Thank you for the opportunity to comment.

Sincerely,

Ryomi Tanino
Regional Environmental Officer

cc: John Duffy/AAO
Newton Chase/AAO

Rec'd Eco
12/3

AREA OFFICES
Portland, Oregon • Seattle, Washington • Anchorage, Alaska • Boise, Idaho
Insuring Office
Spokane, Washington

Response to Letter 39
(Department of Housing and Urban Development)

Thank you for your response.

40

P.O. Bx 4464
Mt. Edgecumbe, AK 99835
Nov. 28, 1979

RECEIVED
DEC 19 1979
CHATHAM AREA

John Sandor
Regional Forestor
U.S. Forest Service
P.O. Bx 1628
Juneau, AK 99802

Dear Mr. Sandor:

I have attempted to read & digest the (DEIS) 1981-86 logging plan. There are specific proposals which I strongly object to:

1. The Kadashan cut proposal is unacceptable. Using multiple use criteria I feel the area is more

1 valuble as a fish production area. the compatibility of logging & the fishery seems impossible in this area.

2. The cumulative effect of old growth forest cuts in past, proposed, & future cuts hasn't been
2 considered in this plan. The continuing cut proposal could have disasterous affects on wildlife.

3 3. Roads for recreational access is absurd. The american taxpayer would certainly
4 rebel if he knew of the subsidy to the logging industry the Forest Service Provide—

Copy to: Max Peterson

Sincerely,
Kent Hansen

Response To Letter 40
(Kurt Hansen)

1. As discussed in the FEIS, Kadashan will not be harvested in the 1981-86 period. We would point out that multiple-use criteria are well met by TLMP management direction which provides for both fish and timber emphasis in this LUD III area. See also letters 1 (resp. 36), 2A (resp. 2), 26 (resp. 1), 46 (resp. 2) and 50 (resp. 30).

2. See letter 15, responses 3 and 7.

3. The use of logging roads for multiple resource management is, in the view of the Forest Service, logical and prudent. Although this reviewer may not desire recreational access roads, many who now enjoy the Tongass or would wish to do so, will benefit by this aspect of the plan. Fortunately, TLMP allocation establishes roadless (LUD I and II) management for much of the Tongass, thus providing well for those who prefer undeveloped recreation settings. See also letter 15, response 21.

4. It is not clear whether or not this review infers that public investments are tied to providing recreation roads. As is discussed in this document (and more extensively TLMP socio-economic assessments) public investment to balance the cost of transportation and primary millage purchases the substantial benefits of regional employment and economic stability. These issues were explored extensively during TLMP planning and are, we believe, well known to the large numbers of taxpayers who participated in that planning process. See also letter 23, response 3.

41

Sitka Conservation Society

A CHAPTER OF ALASKA CONSERVATION SOCIETY

P.O. BOX 316 SITKA, ALASKA 99835

December 23, 1979

Area Supervisor
USDA Forest Service
Tongass National Forest - Chatham Area
Box 1980
Sitka, Alaska 99835

Dear Area Supervisor:

The Sitka Conservation Society (SCS) appreciates this opportunity to comment on the Draft Environmental Impact Statement for the ALP 1981-86 Timber Sale Operating Plan. SCS is a member of the Southeast Alaska Conservation Council, and we endorse the comments submitted by SEACC. We do wish to submit our own comments, however, to emphasize our sometimes more parochial interests. Almost three months after the Draft was released and about one week before the deadline for public comment, it came to our attention that the timber volume estimates for the cutting units contained in the proposed plan were "off" by about 175MMbm, and that approximately 5,300 acres of identified cutting units would be deleted from the 81-86 operating period. Therefore, our comments will be divided into two distinct sections: (1) the Draft as presented and; (2) a discussion of the "deletion process" and identification of some areas we see as being prime targets for deferral.

I. THE DRAFT

While many of our specific comments which follow are of a critical nature, we do wish to commend the Forest Service on the improved level of information presented in the DEIS, particularly the Chatham Area fisheries data, and on the utilization of the interdisciplinary team (IDT) process in the formulation of the alternatives and the recommended action plan. While we do not see the IDT as the panacea it is presented to be in the DEIS, this approach does help to insure that the interests of the various forest resources will be voiced. We are pleased that the IDT recognized the high non-timber values in South Arm and Pond Island of Kelp Bay and identified these areas for "no action" during the 1981-86 operating period. We are also pleased to see several controversial issues and areas flagged early in the discussion presented in the DEIS (pages 6 and 7). We commend the Forest Service for the inclusion of Part II, the map supplement, which we found to be very helpful in comparing the alternative cutting patterns and in visualizing the extent of the proposed logging.

It appears that many of our difficulties with the DEIS stem from the basic Forest Service approach to the preparation of such a document. Although entitled a "Draft Environmental Impact Statement," the summary states (page v), "The purpose of this statement is to display the development of a recommended action plan for the harvesting of 525 MMbm of timber..." Reference to the regulations of the Council on Environmental Quality (CEQ) for the implementation of the National Environmental Policy Act (NEPA), Section 1502.1, "Purpose," might be well advised. 1 An EIS is described herein as "more than a disclosure document." It shall "provide full and fair discussion of significant environmental impacts and shall inform decision-makers and the public of the reasonable alternatives which would avoid or

- 2 -

minimize adverse impacts or enhance the quality of the human environment. Agencies shall focus on significant environmental issues..." While this DEIS may display the development of a recommended action plan, it provides, in our judgement, neither the full and fair discussion of impacts, nor a full range of reasonable alternatives as called for. Therefore, as a DEIS the document is severely lacking. Moreover, as a management plan for the operation of the 1981-86 timber sale, we find that the document displays a recommended action in which 2 environmental considerations lost the battle time after time to timber interests. The issues and concerns which led us to the above conclusions are summarized below.

THE DEIS DOES NOT ANALYZE ENVIRONMENTAL IMPACTS

3 While the Draft does present some general, overall discussion of possible impacts, there is no systematic or in-depth analysis of the impacts of clear-cutting 28,000 (now 23,000) acres of forested land. If the Forest Service does not have available information relevent to specific adverse impacts, the CEQ states that "the agency shall make clear that such information is lacking," and the DEIS should then "weigh the need for the action against the risk and severity of possible adverse impacts were the action to proceed in the face of uncertainty."

Impacts on Fisheries

4 As stated in our opening comments, we are pleased with the tables presented by the Chatham Area fisheries biologists. While these tables can not tell us what will happen, they do show the magnitude of development and are of great assistance in comparing alternatives. It is unfortunate that the Stikine Area did not follow suit and present similar information. The explaination that a fisheries biologist was involved in the planning process is not an acceptable substitute.

5 The National Forest Management Act (NFMA) requires that special attention be given to land and vegetation for approximately 100 feet from the edges of all perennial streams, yet in the Chatham Area, page 77 of the DEIS shows that 17% of the 15 identified major fish streams will be logged on one or both sides. (We can't speak to Stikine Area plans...) This violation of the NFMA should be corrected, and wildfirm buffer strips established.

6 Over 900 acres of Fish Habitat Sensitivity Zone (FHSZ)- areas that are important or critical to fish production - are proposed to be harvested, yet the DEIS makes no attempt to translate this ecosystem disturbance into impact to fish habitat and eventual loss or reduction of fish production. The logging of thousands of acres in Fish Habitat Management Units will undoubtedly result in the destruction of rearing and spawning habitat as found in the small feeder streams in addition to the "important" fish streams shown on the tables. These impacts are not detailed in the DEIS.

7 The economic analysis of fisheries is confined to one sentence on page 17. The Tongass Land Management Plan finds that fisheries will continue to play an important part in the Regional economy, and the Southeast Area Guide states that fisheries shall be considered no less important than the other renewable resources of the National Forest. We find then that the economic analysis of present fisheries values is unacceptable, and that an analysis of the values of spawning gravels which will be adversely affected by the implementation of the recommended action is non-existent. A realistic appraisal of fisheries values in each watershed proposed to be entered must be presented in the DEIS in order to begin to justify single-use management plans.

Impacts on Wildlife

8 SCS is pleased to note the discussion - brief as it may be - on page 37 of the dependence of Sitka black-tailed deer on old growth timber, and to the reference to the numerous studies in coastal forests of Southeast and British Columbia which show that logged areas, including second growth, receive substantially less deer use throughout the year than old growth stands. The DEIS also states at page 74, "An unavoidable consequence of the proposed action is the conversion of mixed-aged, old-growth habitat into even-aged regeneration." In a glaring omission, the impact of this conversion is not addressed. If the Forest Service wants to continue to have a diversity of wildlife and plant species to manage for, then a detailed analysis of the biological impacts of the permanent loss (under present rotation plans) of the old growth forest must be made and the findings of this study must be presented to the public.

9 Likewise, the DEIS should present an analysis of the cumulative impacts of these 5 year logging plans. It is essential that past, present, and future impacts be assessed and evaluated in terms of the entire life of the contract or of the timber harvesting rotation cycle to insure that excessive logging and irreversible adverse impacts on wildlife are not now occurring or do not occur in the future.

10 The spotty information presented in the section "Effects on Wildlife" is entirely inadequate. The list on page 75 purports to note the differences on key deer winter range in East Kuiu, but includes such meaningless statements as, "The proposed action adds one new unit but substantially reduces the size of the other units proposed by the IDT." The entire list could serve as the archetype of confusion.

11 To aid the public in understanding the relationship of the proposed plan to wildlife, we suggest tables be prepared similar to those prepared by the Chatham Area fisheries team. These wildlife tables would show, for example, the numbers of acres of critical habitat (by type) in each management unit, the numbers of these acres to be directly impacted by logging and roading, etc., and other appropriate measures which could be developed by Forest Service wildlife biologists. Maps displaying these and other relationships should also be provided.

Impacts on Air Quality

12 As Sitkans, we are perhaps especially interested in pulp mill emissions. The DEIS on page 12 notes that the ALP pulp mill in Sitka exceeds particulate matter emission standards, "due in part to the burning of sludge..." but it does not tell the public that over 60% by weight of the emitted particulate matter is salts. The dry handling of logs could substantially reduce particulate matter emissions, and could possibly bring the mill into compliance with these standards. A discussion of the alternative method of log handling should, therefore, be included in the section, "Effects on Air Quality."

Impacts of Roads

13 The proposed action includes construction of approximately 369 miles of logging roads. The construction of these roads and the eventual traffic may in some areas cause greater adverse impacts that the actual logging activites. We gather from the discussion of recreational opportunities that the Forest Service plans to maintain these roads. If so, this should be addressed as the building

of a permanent road system will have social and economic impacts quite apart from those of the 1981-86 logging.

14 The DEIS repeatedly (e.g. pages 38,50,52,58,59,60) asserts that increased roading will improve access for recreational purposes. Has the Forest Service or the Alaska Division of Parks conducted any studies which indicate that road-related recreational opportunities are favored over the "primitive" type in Southeast Alaska, or that recreationists flock to clearcuts?

15 Roads are an integral part of the proposed logging plan; we suggest the Forest Service squarely address the associated impacts of these roads, including their influence on future logging plans, and stop trying to sell us the concept that more roads mean - ipso facto - better "multiresource management" and increased recreational opportunites.

16 THE DEIS DOES NOT PROVIDE REASONABLE ALTERNATIVES WHICH ARE RIGOROUSLY EVALUATED AND PRESENTED IN SUCH A WAY AS TO PROVIDE A CLEAR BASIS FOR CHOICE AMONG OPTIONS

17 The DEIS does not present an alternative which would harvest less volume than 525 MMbm. All indications lead us to continue to believe that the initial timber volume estimates were too high and, as we have noted in previous correspondence, there is not enough timber or land in the Tongass to accomodate both the high volume requirements of the ALP contract and the protective environmental laws which have been enacted since the inception of this contract. Therefore, the DEIS should give full and fair discussion of an alternative which displays the harvest of substantially less volume.

18 The evaluation of the alternatives presented is seriously deficient. The DEIS should present in parallel form for each management option, in each management area, the volume and acreage involved and the anticipated environmental impacts resulting from logging and associated activities and land uses. Map displays and matrices - such as those included in the recently released Sitka Coastal Management Program, Phase I Report - would be helpful to the reader in determining relationships and analysing the alternatives. The 1981-86 Draft presents information which is often self-contradictory, generally incomplete or incomprehensible, making a clear choice among options impossible.

19 THE RECOMMENDED ACTION SHOWS A TIMBER BIAS AND DOES NOT CONFORM TO "BEST MANAGEMENT PRACTICES"

20 Alternative 3 "...was developed to emphasize resource protection under the guides of best known management practices." Alternative 3 disappeared, however, when it came to forming the recommended action, providing us with a plan that is a blend primarily of Alternative 1 - which emphasizes timber harvest economics - and Alternative 8, prepared by ALP - which, we imagine, emphasizes timber harvest economics. The result can only be a plan which emphasizes...timber harvest economics. Once again we have before us a plan which was, in effect, dictated by logging engineers, and which ignors the Forest Services' own guidelines for best managements practices.

TENUOUS CONFORMANCE WITH NFMA

21 In addition to ignoring stream protection measures mentioned above, the DEIS states on page 32, "Section 15(b) of the National Forest Management Act of 1976 (PL 94-588) validated the long term timber sale contracts in Alaska." Section 15(b) reads, "The Secretary of Agriculture is directed, in developing five-year operating plans under the provisions of existing fifty-year timber sale contracts in Alaska, to revise such contracts to make them consistent with the guidelines and standards provided for in the Forest and Rangeland Renewable Resources Act of 1974, as amended, and to reflect such revisions in the contract price of timber. Any such action shall not be inconsistent with valid contract rights approved by the final judgement of a court of competent jurisdiction." We do not interpret this section as a validation of ALP's 50 year contract. The DEIS should consider specific revisions to the long term timber sales contract to make it consistent with the recently promulgated regulations developed pursuant to the Act.

22 The NFMA, in Section 14(h), calls for practices which promote "more effective wood utilization." We do not see in the DEIS any indication of innovative planning which might lead to the optimum practical use of wood fibre. An example of an approach the DEIS should consider in this context is the dry handling of logs. This would cause the significant timber losses incurred in saltwater storage (Bankia infestation) and log-raft breakups to disappear.

23 The NFMA requires conformance with NEPA. A reasonable approach to reducing adverse environmental impacts which is not addressed in the DEIS is to count utility logs against ALP's volume entitlement. The recently completed timber cruise for the operating period showed utility logs to measure approximately 5,000 bf/acre. By counting this large amount of timber, the acreage impacted by logging could be reduced, with a probable corresponding reduction of adverse environmental impacts.

* * *

24 We recognize that the Forest Service labored long to make this a concise document, and we also recognize that the CEQ directives state that an EIS will normally be under 150 pages. May we suggest, then, that the Forest Service can comply with our requests to upgrade the quality of the DEIS and plan and meet these space considerations by deleting the falling trees and file cabinents, and replacing them with a serious and analytic discussion of a full range of alternatives and the environmental impacts of these alternatives and the recommended action in accordance with the various laws governing Forest Service activities.

II. THE "DELETION PROCESS"

25 Timber interests were well taken care of in the DEIS. We hope that the Forest Service will seize this opportunity to bring the plan more closely into compliance with the Southeast Area Guide and the NFMA which calls for the development of management plans which: recognize that the National Forests are ecosystems; consider the relative values of all renewable resources; protect the quality of renewable resources and; are responsive to changing conditions in the land and changing social and economic demands of the American people.

26 At this point, it seems timely to paraphrase some of our suggestions contained in our response to theDEIS for ALP's 1976-81 timber sale. In developing the new plan for cutting units for the 81-86 period, we suggest that the Forest Service, in an effort to reduce future conflict, hold a workshop in each area office to review the plans, allowing the public to express its views in non-technical terms and to find out what the Forest Service has in mind. Rather than limiting itself to the letter of the law, the Forest Service here has an oppor-

tunity to distinguish itself by encouraging dialogue before positions and plans become rigid in the final EIS.

27 Our specific recommendations for areas to be deleted from this operating period are a combination of entire drainages and individual or cluster unit deferral. We are not an agency with accurate acreage and volume figures at our fingertips, but we believe that the acreage of our list of areas to be deleted from the 81-86 plan totals close to 5,300 acres. If not, this list will still serve to indicate the direction in which we urge the Forest Service to proceed.

AREA	ACREAGE*	RATIONALE
Chatham		
Kadashan Drainage	1,000	Overwhelming public support for deferral at this time for this area of outstanding fish, wildlife, and recreational values
All units in FHSZs	900	Safeguard important or critical fish habitat that is sensitive to developmental activities
Units on slopes over 75%	600	Avoid steep slopes wherein soil type, etc., poses extreme hazard
FHMUs in Game Creek	800	Protect important fish producing system
Finger Creek Drainage	515	Area of high wildlife, fisheries, recreational, and visual resource values
Portage Arm	250	Important wildlife habitat in close proximity to Kelp Bay's high value fish, recreational, and scenic areas
East Kuiu	1325	
Units in Port Camden (VCU 420), heads of Threemile Arm and Seclusion Harbor and including those along streams # 105-32-73 and # 105-32-82		Along with the deletion of the Port Camden LTS, provide protection for areas of high fish and wildlife habitat value, and visual/recreational value of Port Camden/Threemile Arm portage
Units which disturb waterfowl nesting in north Alvin Bay and near the head of Seclusion Harbor		Reduce impacts to waterfowl

* Approximate

* * *

In order to obtain additional public response, the deadline for responding to the DEIS was changed several times. We appreciate this effort of the Forest Service to solicit more comment, and we appreciate this opportunity to do so. It is our hope that the Forest Service will find our comments to be of use in preparing the final Environmental Impact Statement and that these comments and others will be included in full in the text of that document.

Sitka Conservation Society
Board of Directors

Helen M. Shaper
Jack Calvin
Eugene McEwen
Lance V. Packer
Don Muller
Tom Jacobsen
Jane E. Eidle
Lee M. Schmidt
Anne Johnstone

cc: Elaine Sunde
USFS - Chatham Area

Norm Covington
USFS - Stikine Area

John Sandor
Regional Forestor

Max Peterson
Chief, USFS

Response To Letter 41
(Sitka Conservation Society)

1. We believe the EIS is consistent with 40 CFR 1502.1, 44 CFR 1950.2 and all other phases of the NEPA process and direction.

2. While it may appear that environmental considerations lost the battle to timber interests, the reality may be quite the contrary. In an effort to balance environmental and commodity development interests, great pains were taken to consider all issues, concerns and viewpoints particularly if one also considers this in relation to other land allocations in TLMP. The environmental trade-offs constantly restricted timber harvest. Prime examples of this are the retention zones which generally were responsible to our fish and wildlife resources and occur on the most productive sites. Average retentions are 13 and 30% of the timber volume respectively for LUDS IV and III. Further withdrawals occurred by smaller units for visual purposes, smaller and more dispersed units for wildlife buffer strips on many streams and deletions for sensitive soils. All of these reduce harvest economics. For a perspective of how these decisions are made, see letter 15, responses 3 and 7.

3. The sections you quote (40 CFR 1502.22 and 40 CFR 1502.22b) make reference to cases where "the information relevant to adverse impacts is essential to a reasoned choice among alternatives." We feel that adequate information has been provided to establish a reasoned choice. See also letter 1, response 9.

4. See letter 2, response 3.

5. See letters 1 (resp. 25) and 15 (resp. 10).

6. The implications of harvesting in these areas are discussed in the EIS. More detail can be obtained through the fisheries specialists reports available at the Chatham and Stikine Area offices.

7. Watershed by watershed discussions of fish resources present in the operating area and their effects analysis were available to the interdisciplinary team but were deleted from the EIS to promote brevity and readability. See also letter 37, response 1.

8. Consistent with USFS Multiple Use Management objectives, much of the Tongass National Forest is classified as LUD I and II and is managed as old-growth forest. Retention of old-growth is provided for in LUD III and IV areas. See also letters 37 (resp. 4 and 8) and 4 (resp. 5).

9. See letter 15, responses 3 and 7.

10. The purpose of this statement was to indicate that as a result of the reduction of clearcut sizes, only one new unit was added and the rest of the units within critical deer winter range areas were reduced in size. This information was included to explain a directive change that occurred after planning was essentially complete and the draft EIS was being developed. This information is no longer required in the final EIS.

11. Wildlife impacts are difficult to quantify and tabular display may lead to oversimplification of a very complex subject. The implications of timber harvest effects is best understood through the wildlife specialists' reports available at Chatham and Stikine Area offices. The findings and recommendations are necessarily condensed for the DEIS.

12. See letter 2, response 6 for our response to dry land storage of logs. While your statement concerning the emission of particulate matter from salt water storage has been documented, compliance with air quality standards are coordinated between the State and Alaska Lumber and Pulp Co.

13. We reference you to Section III Transportation in the FEIS. See also letters 2 (resp. 11), 15 (resp. 21), 37 (resp. 6) and 40 (resp. 3).

14. See letters 2 (resp. 11) and 37 (resp. 6). In addition, it is worth noting in Sitka that the Starrigavin Creek clearcut does receive extensive use by recreationists for berry picking, picnicking, sunbathing and shooting at the rifle range accessed by the logging road.

15. We feel the EIS adequately assesses the impacts of roads.

16. Please refer to response #1 of your letter.

17. See letters 1 (resp. 4) and 4 (resp. 1).

18. Considerable effort has been expended to deal with numerous and complex issues and viewpoints in the development of reasonable alternatives for the 1981-86 5-year operating plan. We are continually searching for more effective ways to analyze and present information leading to choices of action. Your interest in this aspect of the DEIS is noted and appreciated.

19. One must bear in mind that this was a timber management plan with the purpose of developing a recommended action plan for 525 MMbm. As such, reflections of a timber bias may be anticipated. However, we ask you to reread response 18 of your letter. We view best management practices as a set of conditions for which we strive to achieve - knowing that these are not always achievable - to obtain the best results intended. Environmental protection standards are extremely stringent and therefore often are not obtainable. When environmental protection measures are unobtainable, mitigating measures are developed. See letter 2, responses 2 and 10 for a description of how these are employed.

20. At the time of this response, a preferred alternative plan for the FEIS has been developed. Our best indications are that this plan closely approaches Chatham Area's Alternative III, than the other Chatham presented alternatives. It might be noted that this is not unreasonable considering the changes made in developing the recommended action in the DEIS and the further reductions made resulting from our underestimated volumes.

The preferred action found in the FEIS more closely approached Alternative III than any other alternative.

21. We do. See also letters 1 (resp. 4), 4 (resp. 1) and 23 (resp. 2 and 3).

22. The 81-86 plan requires the use of single span skyline up to 2000 ft. reach. This is a technique that has not generally been used on the AL&P sale. This will permit "more effective wood utilization" by permitting the harvest of timber higher on the hill and avoiding the logging of timber over established regeneration. See letters 1 (resp. 17 and 20) and 2 (resp. 6) for references to log handling.

23. See letter 1, response 14.

24. We believethat the EIS is in accordance with laws governing Forest Service activities including those governing Federal documentation procedures. See also letter 6, response 6.

25. The EIS does address a timber management plan and as such, should reflect timber interests. We realize that these activities must be achieved in harmony with other resources. This cannot be achieved without recognizing those factors you have mentioned and many others. This has been identified in the FEIS. See also letters 2 (resp. 2 and 10) and 15 (resp. 3 and 7).

26. The public involvement program has far exceeded legal requirements. Activities described in Section IV: Consultation with Others includes public workshops in every town affected by the plan. In many instances, numerous meetings and workshops were held, e.g., Tenakee Springs and Hoonah. The team recognized that many individuals cannot or do not regularly attend such public meetings. Therefore, through an extensive mailing list, notices to the news media, advisory information to organizations, and other means, we sought to expand public participation. A number of individuals and group representatives, including members of the Sitka Conservation Society, were in regular and continuing contact with the IDT. At each phase and step, any and all members of the public were encouraged to participate. We call attention, also, to the fact that the formal or legal review period for the DEIS was extended for the convenience of several groups who wished to participate. We note also that internal working drafts of both the DEIS and the FEIS were circulated to interested publics, another step to encourage participation which far exceeds legal requirements.

27. Your recommendations were considered in the deferral process.

42

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

MAILING ADDRESS:
U.S. COAST GUARD (G-WEP-7/12)
WASHINGTON, D.C. ~~20590~~ 20593
PHONE (202) 426-3300

16477/4

19 DEC 1979

Mr. Richard M. Wilson
U.S. Department of Agriculture,
Forest Service
P.O. Box 1980
Sitka, Alaska 99835

Dear Mr. Wilson:

This letter is in response to your request for comments on the Draft Environmental Impact Statement (DEIS) for the Alaska Lumber and Pulp Company Operating Plan for the Chatham and Stikine areas in the Tongass National Forest.

On page 24 the utilization of existing transportation systems and the use of boat docks in Hoonah, Corner Bay, Kennel Creek, Rowan Bay, and Eight Fathom Bight are discussed. The Coast Guard suggests some assessment be performed on the potential for conflicting use of these

facilities and the overall impact of timber related activities on
waterborne transportation systems. If such impacts are minor or
2 insignificant a statement to this effect should be supplied.

The DEIS does not provide a list of additional log transfer sites,
logging camps, and related fuel transfer facilities for the recommended
3 action or alternatives. This information is essential for the Coast
Guard to determine the impact these activities will have on our
resources and facilities inspection personnel.

The Coast Guard welcomes the opportunity to comment on the Draft Environmental Impact Statement.

Sincerely,

C. R. CO
Captain U. S. Coast Guard
Chief, Marine Environmental
Protection Division
By direction of the Commandant

Response To Letter 42
(Dept. of Transportation, United States Coast Guard)

1. The potential for conflicting use of water transportation facilities was assessed during early phases of developing the EIS. In fact, conflicting use was one of the factors that lead to dropping some of the proposed log transfer sites (Whitestone Harbor as an example).

2. The overall impact of timber related activities on water bourne transportation systems is not expected to change much during the 81-86 period. Activities will shift but the total impact will not change.

3. Additional log transfer sites will be built at Hoonah, Salt Lake, Seal Creek, Finger Creek, No Name Bay, and Trap Bay; the site at Hanus Bay will be rebuilt. Log transfer facilities already approved in the 76-81 plan will also be built at Cosmos and Inbetween.

With the possible exception of Hoonah, all of the facilities will require additional fuel transfer facilities. Logging camps will be built at Finger Creek, Seal Creek, and possibly rebuilt at Hanus Bay.

RECEIVED
DEC 20 1979
CHATHAM AREA

43

Response Form

YOUR NAME, ADDRESS, AND ZIPCODE:

MRS. CONVERSE
BOX [illegible]
TENAKEE SPGS
ALASKA 99841

Dear Reviewer:

YOUR RESPONSE BY DECEMBER 1 will be used in preparing a final environmental impact statement for the 1981-86 ALP operating period. You may use this form, or you may enclose a letter inside this form. When finished with your comments, just detach this page. Fold it in half with the other side facing out. Seal the edges. And, mail it so it will arrive by December 1. This form is preaddressed, and the postage is prepaid.

Some topics you may wish to discuss with us are:

1. THE ISSUES. Please tell us which issues you consider most important to this planning process. If these issues are not adequately addressed in this statement, please identify those additional questions or concerns which the Team should consider.

AS STATED DURING OUR MEETINGS: KEEP YOUR LOG DUMPS OUT OF TENAKEE INLET. DO NOT LOG KADASHAN. ONE OF THE BEST SPAWNING STREAMS IN S.E. ALASKA FOR DOG - HUMPS AND SOME COHO. WE DO NOT NEED OR WANT A ROAD TO HOONAH

2. ALTERNATIVES AND RECOMMENDED ACTION. The Team's recommendation is a blend of eight alternatives. We would like to know your thoughts on these alternatives, the recommendation, and the process used to develop them. If your concerns are best met by one of the alternatives, please identify it.

KEEP OUT OF CRAB AREAS - CRAB BAY, SALTERY BAY - SEAL BAY, LONG BAY, FIRST GOOSE FLATS SECOND GOOSE FLATS THIRD GOOSE FLATS AND HEAD OF TENAKEE INLET 1

Response To Letter 43 (Vicki Converse)

1. The Forest Service is aware of Tenakee Springs' position concerning a road connection to Hoonah. No such road connection has been proposed at any time in this planning process.

See also letters 1 (response 36), 2A (response 2), 26 (response 1), 46 (response 2) and 50 (response 30).

Jan. 16, 1980
44

RECEIVED
CHATHAM AREA
JAN 23 '80
Forest Sup'r
Admin Ofcr
Planning
Timber
RL
Engineer
Watershed
Wildlife
W. W. C.
W. W. C.

Dear Sirs:

1 The DEIS is unacceptable as it fails to present a plan which is consistent with muptiple use and resource protection goals, + which observes high resource protection standards without exception.

2 The 50-year contract must be revised and the volume requirements reduced so that resource values other than timber will be protected as set forth in the NFMA.

3 Logging must be deferred in the Kadashan watershed on eastern Kuiu Island, and in any other areas that you know are too valuable to be logged.

4 The old growth forest is a unique ecological community that must be preserved and the cumulative impacts of removing this resource must be analysed.

—over—

The wasting of wood must stop and dry land log storage and 5 barging should be Required.

6 Roads must not be built just for the sake of "more roads".

Sincerely,
Jennifer Templin

Response To Letter 44 (Jennifer Templin)

1. See Letter 37, (response 1).

2. See Letters 1 (response 4) and 4 (response 1).

3. See Letter 14, response 1. It should be noted that as LUD III and LUD IV areas respectively, Kadashan and East Kuiu have been allocated for commodity resource development. Resource values, including timber, fish and other resources will be utilized using responsible and sound management principles. See also letters 1 (response 360, 2A (response 2), 26 (response 1), 46 (response 2) and 50 (response 30).

4. See Letters 4 (response 5) and 37 (response 4).

5. See letters 1 (response 17 and 20) and 2 (response 6).

6. See letters 2 (response 11) and 37 (response 6).

45

Response Form

YOUR NAME, ADDRESS, AND ZIPCODE:

Matt Longenbaugh
Box 2355
Sitka, Ak.
99835

Dear Reviewer:

YOUR RESPONSE BY DECEMBER 1 will be used in preparing a final environmental impact statement for the 1981-86 ALP operating period. You may use this form, or you may enclose a letter inside this form. When finished with your comments, just detach this page. Fold it in half with the other side facing out. Seal the edges. And, mail it so it will arrive by December 1. This form is preaddressed, and the postage is prepaid.

Some topics you may wish to discuss with us are:

1. THE ISSUES. Please tell us which issues you consider most important to this planning process. If these issues are not adequately addressed in this statement, please identify those additional questions or concerns which the Team should consider.

The single issue of importance is the AL&P long term timber contract. The outdated contract is patently inadequate for allowing state-of-the art admistration of resource protection.

1 The only recourse is to immediately terminate the long term contract and allow any future timber sales on a short term (2-5 yr.). The present contract, even with active IDTs, allows mass wasting, unacceptable visual modifications, and long term (more than 50 yrs) degradation and despoliation of fish and wildlife habitat.

2. ALTERNATIVES AND RECOMMENDED ACTION. The Team's recommendation is a blend of eight alternatives. We would like to know your thoughts on these alternatives, the recommendation, and the process used to develop them. If your concerns are best met by one of the alternatives, please identify it.

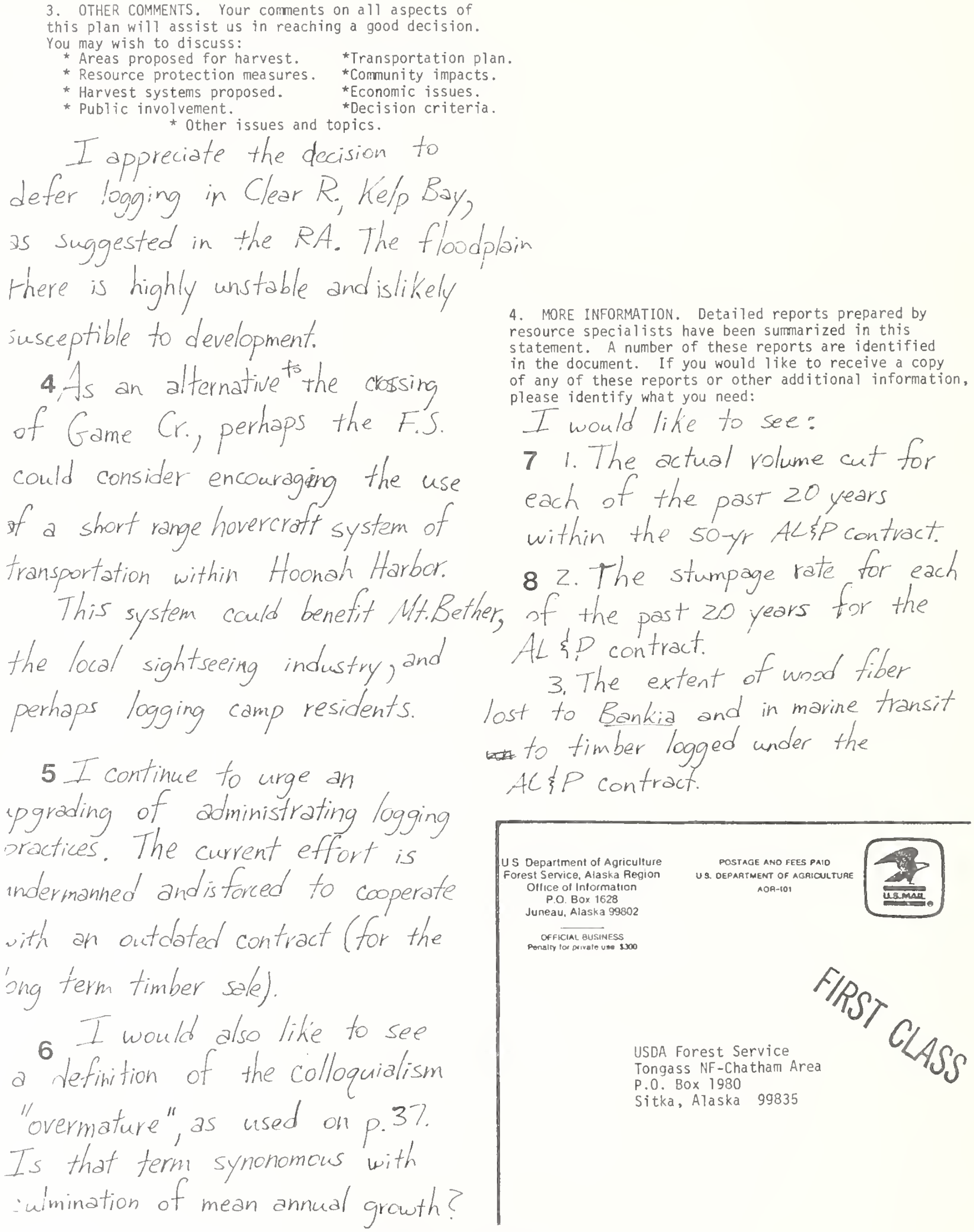
The process, with which I am intimate, was chaotic, irrational, and beset by misdirection.

2 The only acceptable alternative is no action. All other alternatives allow the continued give-away of national forest (PUBLIC) resources, subsidized by the U.S. taxpayers.

3 Alt 3 is clearly the most amenable to environmental protection and may provide the greatest long term returns of all alternatives, as noted on p. 59.

RA is clearly unacceptable because:

1) Port Camden LTS is unacceptable environmentally
2) Hoonah Hbr LTS is unacceptable environmentally
3) Game Cr. bridge at mouth is cost prohibitive (½-1½ M, [illegible])
4) Seal Cr. road is likely to slide into the fish stream below
5) Logging is planned adjacent to salmon spawning habitat in:
   a) Iyouktug
   b) Suntaheen
   c) Gartina
   d) Game
   e) Fish Lake
   f) Hillmon
   g) Salt Lake
   h) Finger
   j) Flat Fork
   k) Local Cr.



3. OTHER COMMENTS. Your comments on all aspects of this plan will assist us in reaching a good decision. You may wish to discuss:

- Areas proposed for harvest.
- Resource protection measures.
- Harvest systems proposed.
- Public involvement.
- Transportation plan.
- Community impacts.
- Economic issues.
- Decision criteria.
- Other issues and topics.

I appreciate the decision to defer logging in Clear R, Kelp Bay, as suggested in the RA. The floodplain there is highly unstable and is likely susceptible to development.

4 As an alternative to the crossing of Game Cr., perhaps the F.S. could consider encouraging the use of a short range hovercraft system of transportation within Hoonah Harbor. This system could benefit Mt. Bether, the local sightseeing industry, and perhaps logging camp residents.

5 I continue to urge an upgrading of administrating logging practices. The current effort is undermanned and is forced to cooperate with an outdated contract (for the long term timber sale).

6 I would also like to see a definition of the colloquialism "overmature", as used on p. 37. Is that term synonomous with culmination of mean annual growth?

4. MORE INFORMATION. Detailed reports prepared by resource specialists have been summarized in this statement. A number of these reports are identified in the document. If you would like to receive a copy of any of these reports or other additional information, please identify what you need:

I would like to see:

7 1. The actual volume cut for each of the past 20 years within the 50-yr AL&P contract.

8 2. The stumpage rate for each of the past 20 years for the AL&P contract.

3. The extent of wood fiber lost to Bankia and in marine transit to timber logged under the AL&P contract.

U.S. Department of Agriculture
Forest Service, Alaska Region
Office of Information
P.O. Box 1628
Juneau, Alaska 99802

OFFICIAL BUSINESS
Penalty for private use $300

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF AGRICULTURE
AGR-101

U.S. MAIL

FIRST CLASS

USDA Forest Service
Tongass NF-Chatham Area
P.O. Box 1980
Sitka, Alaska 99835

Response To Letter 45
(Matt Longenbaugh)

1. We would point out that timber inventories of the Tongass identify sufficient volume to meet the long-term sale contracts within legislative and agency direction for environmental protection.

The Forest Service and the timber industry have made significant investments to minimize the impacts of logging to various resources, including fish and wildlife. With the charge of providing timber fiber from the forests of southeast Alaska we believe we have the technology and direction to fully implement multiple-use management in the forests. Timber harvesting activities which have been clearly shown not to be in the best interests of multiple-use management, are no longer necessary nor are they condoned by the Forest Service. Fisheries resource protection prescriptions appurtenant to the 1981-86 operating plan, many of which were made by this reviewer, are programmed for implementation during this operating period. See also letters 1 (resp. 4) and 4 (resp. 1).

2. As discussed in the EIS, No Action is not a viable alternative. See also letters 1 (resp. 4) and 4 (resp. 1).

3. Alternative 3 is represented in the Preferred Alternative as discussed in the FEIS. Because many of the sensitive fisheries, wildlife, and visual areas have been deferred to the last serial stages of the plan, we believe the Preferred Alternative portrayed in the FEIS to be substantially more accommodating to your fish and wildlife concerns than was the Recommended Action displayed in the DEIS. Specific note should be made that: 1) the Port Camden LTS has been deferred; 2) the Hoonah Harbor LTS, and 3) Game Creek bridge will receive additional field review to develop necessary resource protection measures.

4. The road section which you address in Seal Creek will be constructed in a manner which will in no way reduce the stability of the slope. The present design, if implemented, will actually add to the stability.

Harvest in a number of these areas has been deferred. Partial units have been deferred in others, primarily to avoid sensitive habitat. Best management practices will be exercised for protection of all spawning habitat.

5. The Alaska Region of the Forest Service is currently implementing a reorganization of our program and offices. A district form of organization, with offices located in Wrangell, Petersburg, Sitka, Hoonah, Juneau, and Yakutat, will substantially improve our capability for administering logging practices. Biologists will be located in each of these offices.

6. "Overmature timber," as used on page 37 of the DEIS, is a silvicultural term given to old-growth forests where a high percentage of timber is dead and decaying. Mean annual fiber production of a forest is substantially less than optimum where this "overmature" stage exists.

7. The volumes of timber cut and stumpage rate paid for the last 20 years is available in the Sitka office. We suggest you stop in and review it.

8. The timber industry recognizes the loss of wood fiber to toredoes (Banksa) and is placing increasing emphasis on barging and dry-land storage because of this economic concern. Although not economically feasible to totally convert to barging and upland storage during this five-year operating period, we believe you will see more forest products transported and stored in this manner and fewer logs transported via rafts in the future.

46

Response Form

YOUR NAME, ADDRESS, AND ZIPCODE:

Mike Dixon
Box 804
Douglas, Alaska
99824

Dear Reviewer:

YOUR RESPONSE BY DECEMBER 1 will be used in preparing a final environmental impact statement for the 1981-86 ALP operating period. You may use this form, or you may enclose a letter inside this form. When finished with your comments, just detach this page. Fold it in half with the other side facing out. Seal the edges. And, mail it so it will arrive by December 1. This form is preaddressed, and the postage is prepaid.

Some topics you may wish to discuss with us are:

1. THE ISSUES. Please tell us which issues you consider most important to this planning process. If these issues are not adequately addressed in this statement, please identify those additional questions or concerns which the Team should consider.

2. ALTERNATIVES AND RECOMMENDED ACTION. The Team's recommendation is a blend of eight alternatives. We would like to know your thoughts on these alternatives the recommendation, and the process used to develop them. If your concerns are best met by one of the alternatives, please identify it.

1 I recommend Alternative 8 because it has the least logging

2 I think you should save Kadashan.

3 I believe the fact the Kadashan River road will not be maintained after 1981 and that all culverts & bridges will be taken out should be written into the Final EIS.

4 I believe these draft-EIS should have been sent out to Tenakee in September when they came out and not in mid-November when the town council has but 2 weeks to reply.

The town should be given more than 2 hours notice of the Forest Service meeting like was given this time so that more than 10 people are notified.

Response To Letter 46
(Mike Dixon)

1. The recommended action was a combination of parts of all alternatives, including Alternative 8 as you suggest. We felt that no specific alternative in its entirety met all of the needs so we selected the best parts to achieve the contract requirements within environmental constraints.

2. We feel that the question of whether or not Kadashan must be logged was answered in the Tongass Land Management Plan. Kadashan was allocated to LUD III which permits timber harvesting. In fact, the Tongass Land Management Plan gives very specific direction regarding logging in Kadashan. In the event you do not have a copy of the Tongass Land Management Plan, quoted below are excerpts from the plan concerning Kadashan.

> Major activity emphasis in the future will be timber harvest and road access construction. A road may be built through the upper drainage during ALP 76-81 and 81-86 operating periods to access timber in other management areas and to utilize the logging camp at Corner Bay. Connecting the Sitkoh Bay-False Island road systems with the Corner Bay system would facilitate future resource management needs. Timber may be harvested from the area in the ALP 81-86 period in connection with the road development and in the ALP 86-91 period. Recognizing concerns expressed by various communities, Alaska Department of Fish and Game, and others, timber harvest and related road location and construction will be carried out in accordance with the following general guidelines and procedures: 1. No roads or timber harvest will be allowed within 1/8 mile of the estuarine tide flat of Kadashan Bay. 2. No roads or bridges will be allowed along or across the Kadashan River in the lower one mile upstream from the general line where the grass flats meet the timber. 3. No timber harvest or roading will be allowed within 1/8 mile of either riverbank along this lower one mile reach of the Kadashan River. These guidelines will be provided to an interdisciplinary team who will conduct a field inventory and analysis before a final recommendation is implemented. Upstream from these zones resource protection measures as described in the Chatham Area Project Guideliens for Wildlife, Sec. 1110, Alluvial Area, Sec. 1120, Sec. 1140, and those resource protection measures applicable as written in the Southeast Alaska Area Guide, will be strictly adhered to.

See also letters 1 (resp. 36), 2A (resp. 2), 26 (resp. 1) and 50 (resp. 30).

3. A final decision has not been reached concerning the maintenance of the Indian River road. We understand that Tenakee is preparing a request to keep the lower five miles or so open for access to a proposed hydroelectric facility. This information will be utilized along with other information concerning future uses of the Indian River road in making the decision about what parts of the road will be closed.

4. The Draft EIS was mailed out in September 1979. Many of the people on the mailing list were residents and elected officials of Tenakee.

47

Nov 29, 1979

RECEIVED
DEC 3 1979
CHATHAM

Dear Sirs:

I will keep this brief, as I am sure that you have recieved many letters on the same subject; however, the length of this letter in no way indicates the degree of my concern.

Alaska Lumber and Pulp Company's 1981-1986 logging plan and the Draft Environmental Impact Statement issued
1 concerning this plan are unacceptable

because they are inconsistent with multiple use and resource protection goals regarding fish and wildlife habitats.

The 50-year contract with ALP should be revised ~~reduced~~ and the volume reqirements reduced
2 so that resouce values other than timber will be protected. Logging should be deferred
3 altogether in the Kadashan watershed and on Eastern Kuiu Island.

Dry land storage of logs and barging of
4 logs must be instituted both because of the effect on fisheries and the loss of wood fiber when logs are stored and transported in the water.

Single-purpose logging roads must
5 not be built just for the sake of having more roads. When roads are built, extreme caution should be used to prevent silting and erosion, and, in the case of culverts, the potential for blocking streams to fish after these roads are abandoned should be considered.

6 I live in Oregon, and one only has to look at our fisheries industry (which has suffered greatly) to deduce the terrific impact that lack of care for multiple-use concepts will have in Alaska.

Take care and keep your minds and eyes open — we didn't and we lost.

Sincerely
Robert E. Brown
4575 NE 37th
Portland, Ore. 97211

Response To Letter 47 (Robert Brown)

1. See Letter 37 (response 1).

2. See Letters 1 (response 4) and 4 (response 1).

3. See Letters 14 (response 3), 1 (response 36), 2A (response 2), 26 (response 1), 46 (response 2) and 50 (response 30).

4. See Letters 1 (response 3 and 33) and 2 (response 6).

5. Fisheries enhancement programs on the Tongass are to be expanded considerably during the next few years, in response to enabling congressional funding. See Letters 2 (response 11) and 37 (response 6) for reference to roads.

6. See Letter 7, responses 1, 2 and 3.

48

SOUTHEASTERN ALASKA
SEINE BOAT OWNERS & OPERATORS

728 WATER STREET
KETCHIKAN, ALASKA
99901

907-225-6618

Admin Offr ✓
Planning
Timber
RL
Engineer
Watershed

January 9, 1980

USDA Forest Service
Tongass NF-Chatham Area
Box 1980
Sitka, Alaska
99835

Dear Sirs:

The Southeast Alaska Seine Boat Owners and Operators Association wishes to make the following comments concerning the 1981-1986 ALP Operating Plan. In a general overview, we feel that the plan suffers from inadequate discussion of the impact the proposed logging activities will have on the fisheries habitat of the area. In fact, the "Specialist Report" on fisheries prepared by the USFS was not even incorporated into the material presented in the operating plan. It is our opinion that no logging activity should occur until which time that the fisheries resources present in the area are addressed.

There are specific areas where logging operations would promote degredation of the fish habitat. These areas include:

1. It appears from the plan that logging is planned along most of the major salmon producing streams of the area. Of particular concern is loggin activity in the Kadashan Creek watershed. This is one of the largest pink salmon streams in Southeast Alaska, as well as a prime producer of coho
1 and chum salmon. White Stone Harbor, the proposed sight of a log dump, is a big pink salmon producer. This is a shallow bay and leaching from the log dump could be detrimental not only to the fish stocks, but to the king and tanner crab populations of the area.

2 2. Of added concern is the effect the logging operations may have on winter populations of herring which support commercial fisheries. These areas include Port Frederick, Port Camden, 3 Mile Arm, Tenakee Inlet, Lisianski and Alvin Bay.

3 3. Many of these areas also support shellfish habitats, such as Port Camden and White Stone Harbor which have good stocks of king, tanner and dungeness crab as well as shrimp.

4 We feel that consideration must be given to these viable fisheries resources before logging commences. Any impact to the watersheds will undoubtedly effect the temperature sensitivity of the streams which in turn would effect the resources. For this reason, we would ask that leave strips be required along all stream banks in proposed logging areas. We cannot afford to have one resource jeopardized at the expense of another.

Our association would request that our name be placed on your mailing list to receive material in the future similar to the operating plan. We were not made aware of the plan until the first part of December at which time we contacted your office for a copy of the report.

Thank you for the opportunity to comment.

Sincerely,
SOUTHEAST ALASKA SEINE BOAT OWNERS AND OPERATORS

Michele Zerbetz

Michele Zerbetz
Executive Director

cc: Alaska Trollers Association
United Fishermen of Alaska
United Southeast Alaska Gillnetters Association

SOUTHEASTERN ALASKA
SEINE BOAT OWNERS & OPERATORS

728 WATER STREET
KETCHIKAN, ALASKA
99901

907-225-6618

CHATHAM AREA
2-4-80
FEB 4 80
Watershed

January 28, 1980

USDA Forest Service
Tongass NF-Catham Area
Box 1980
Sitka, Alaska
99835

Dear Sirs:

We would like to have these additional comments included for consideration with comments made by the association in our January 9 letter concerning the ALP operating plan.

At the time our original comments were submitted, we had been
informed of changes in the original EIS which deleted
5 Kadashan Creek from the proposed cut. We have since learned
that Kadashan Creek has been moved to a high priority area
for logging operations to be conducted.

Kadashan Creek is one of the largest pink salmon streams in Southeast Alaska. It is also a good producer of coho and chum salmon. This valuable commercial resource cannot be traded off at the expense of the development of another resource.

Due to the high commercial value of this area to the fisheries industry, we request that the Kadashan Creek watershed be deleted from the ALP operating plan. This area has been recognized by the Alaska Department of Fish and Game as one of the top salmon streams in Southeastern as having exceptional fishery values, and previous requests have been made to the USFS to not log these areas.

In addition, we find it difficult to comprehend why the Forest Service is again advocating the logging of this sensitive watershed when, according to recent information, the present plan calls for more timber than required.

We would again like to call to your attention the inadequacies in getting new information out to the public. We received word of the changes in the plan third hand. Since there have been several changes in the original EIS, we request that another draft be drawn up and made available for public comment.

Sincerely,
SOUTHEAST ALASKA SEINE BOAT OWNERS AND OPERATORS

Michele Zerbetz
Executive Director

cc: Alaska Trollers Association
UFA
USAG

Response to Letter 48
(Seine Boat Owners and Operators)

1. See letter 54, response 1.

2. and 3. Among many efforts to minimize impacts on fisheries, NMFS and USF&WS are consulted to recommend sites for marine activities associated with logging. Several decisions were made in the EIS which reflect their recommendations.

4. See letter 52, response 1.

5. See letter 54, response 1.

1-1-80 **49**

RECEIVED
JAN 8 1980
CHATHAM AREA

USFS
Tongass National Forest
Chatham Area
Box 1980
Sitka, Alaska

Dear USFS:

Even though I am living now in Montana I keep up with forest practices in SE Alaska as I lived there for 11 years. Recently I have seen the ALP 1981-1986 logging plan and would urge you to take these points into consideration.

1 1- The 50 year contract should be revised, no other resource values, aside from timber, have been accounted for.

2 2- the plan to me is in conflict with good forestry and goes against the Multiple Use Act and Act of 1976.

3 3- continued water storage of harvested timber is known to wasteful; it should be discontinued.

4 4- as the federal agency involved I urge you to work towards sound forestry and not accept

Response To Letter 49 (Ed Grumbine)

1. See Letters 1 (response 4) and 4 (response 1).
2. See Letter 37, (response 1).
3. See Letters 1 (response 17 and 20) and 2 (response 6).
4. We feel this plan will result in sound forestry practices (please see Letter 2, responses 2 and 10) otherwise, we would not accept it.

50

STATE OF ALASKA

OFFICE OF THE GOVERNOR

DIVISION OF POLICY DEVELOPMENT AND PLANNING

JAY S. HAMMOND, Governor

POUCH AD
JUNEAU, ALASKA 99811
PHONE 465-3512

RECEIVED
CHATHAM

JAN 4

Forest Sup
Admin Ofcr
Planning
Timber
RL
Engineer
Watershed
Wildlife
Yak W C
Jun W C

December 31, 1979

Mr. David Kimbrough
Acting Forest Supervisor
Chatham Area
Tongass National Forest
P.O. Box 1908
Sitka, Alaska 99835

Dear Mr. Kimbrough:

The State of Alaska has completed review of the subject Draft Environmental Impact Statement (DEIS). We realize that our remarks will reach you after the close of the official public comment period. However, in our letter to you of December 14, 1979, we had requested an extension of this period due to the recent knowledge that the cutting units displayed in the recommended alternative are now estimated to contain 175 million board feet (MMbm) more than the 525 MMbm originally estimated in the DEIS. This request for both an extension of public comment and also for additional information from which we could develop our recommended cutting unit reductions has been denied. Although we strongly disagree with the U.S. Forest Service's decision on this matter, we are attempting to get a comprehensive comment to the Forest Service as soon as possible in order to provide timely input into the development of the Final Environmental Impact Statement (FEIS).

Various line agencies within the State helped in the development of this position, and it will serve as the official review of the State of Alaska.

Before commenting directly on the document and the decisions outlined
within it, we would like to state our strong support of the cooperative
and coordinative efforts which have occurred between State agency
personnel and Forest Service staff during the development of the DEIS.
From the beginning we have worked closely together on developing the
type of plan development and review process which would facilitate a
1 coordinated exchange of views and information. Although, at times, the
document itself reflects a lack of contextual knowledge about certain
State concerns, and the process suffered from the inability of some line
agencies of the State to cooperate with the Forest Service to the extent
desirable or necessary for such a process to work, we believe in the
process to date. We thank the Forest Service for its efforts at outreach
and for giving the State an opportunity to provide input at certain
crucial decision-making points.

COMMENTS WITH REGARD TO ACMP

The DEIS references the Alaska Coastal Management Program (ACMP) and states that the FEIS will address the consistency of the five-year operating plan with the guidelines and standards of ACMP (page 87). We are pleased that consistency of ACMP will be addressed formally and in depth during the planning process for this five-year plan. The DEIS, however, does not address consistency except in this peripheral way, and the Forest Service did not request the State's concurrence with their own consistency determination as outlined under Section 15 CFR 930.30 of the federal consistency regulations. Therefore the following comments with regard to consistency with ACMP remain advisory and do not constitute the State's formal opinion.

We recognize that the development of the DEIS was undertaken prior to ACMP approval by the federal government on July 9, 1979. We would strongly urge, though, that future Forest Service activities requiring consistency review by the State, address ACMP prior to a 'final' document. The incorporation of ACMP into the project or plan development process at the earliest possible time will greatly facilitate the Forest Service's efforts in the future, by allowing earlier and more specific ACMP review well before the final document stage. The Office of Coastal Management (OCM) would be happy to meet with Forest Service representatives to discuss appropriate revisions to the planning procedures and discuss other related ACMP requirements.

Since we are unsure just what form the discussion of ACMP will take in the FEIS, some orientating comment at this point seems in order. As you know, federal lands are excluded from consistency with ACMP. However, spillover effects as they directly affect the coastal zone or affect State controlled or managed resources within the coastal zone must be consistent with ACMP to the maximum extent practicable. Thus, many Forest Service decisions and practices, particularly with respect to timber sale plans and actual logging operations, fall under the purview of ACMP.

The following are general categories in which the State has a considerable interest from the standpoint of consistency with ACMP:

(1) 6 AAC 80.100 (b)(1) Location of facilities and layout of logging systems...(Effects of forest practices, particularly timber harvest, on anadromous fish streams.)

(2) 6 AAC 80.100 (c)(2) Sites for in-water dumping and storage of logs... (Effects of forest practices, particularly log rafting and storage on coastal waters and tidelands.)

(3) 6 AAC 80.100 (c)(3) Roads for transportation and harvest and access... (Effects of long-term Forest Service practices on community development and transportation networks.)

(4) 6 AAC 80.130 (c)(7) and 6 AAC 80.140...(Compliance of the effects of logging practices with respect to State water quality standards.)

Within these categories, we are particularly interested in the management of streamside zones, bridge and culvert installations, log rafting and transporting, logging residue management, construction and maintenance of logging roads, and material sites. We realize that policies appearing in the current Southeast Alaska Area Guide, and soon to be updated in the new Regional Plan, elaborate upon these concerns in considerable detail and that they are designed to resolve some of the same issues that our ACMP guidelines and standards are. A reader of the FEIS should, however, have a clear understanding of what impacts in the coastal zone are expected to result from Forest Service practices and how these impacts are to be mitigated in a manner that is consistent with ACMP. We believe that there are two important areas in need of elaboration in the FEIS.

2 (1) Language Linking Forest Service and State Planning Documents. It should be clear from the FEIS which Southeast Guide policies are designed to fulfill applicable ACMP guidelines and standards.

3 (2) Actual On-the-Ground Consistency of Forest Service Practices with ACMP. The FEIS should also make reference to the Interdisciplinary Team process designed, in part, to implement Southeast Guide policy. Perhaps even more important, the FEIS should briefly summarize the effectiveness with which this process has dealt with forest practice issues during the two-to-three years which the policies of the Southeast Guide have been in effect. Reference to the results of the annual updatings referred to on page 19 of the Guide would enhance public understanding of policy effectiveness to date. This understanding could, in turn, inspire public confidence in the correlation between Forest Service planning and policy implementation and the State's coastal management planning.

We are enclosing the ACMP guidelines and standards as well as the Alaska Coastal Land and Water Use Guide, Volume I. We hope these will help you more fully address these concerns. We also look forward to working closely with the Forest Service as the Regional Plan is developed to help ensure that the intent of ACMP is effectively integrated with the Forest Service's on-the-ground decision making process.

Based on the development of the planning process to date, as evidenced in the DEIS, we can see some specific subject areas, as well as the above general concern areas, which could be problematic with respect to ACMP.

4 With regards to water quality standards, section 6 AAC 80.140 of ACMP incorporates the statutes, regulations and procedures of the Alaska Department of Environmental Conservation (DEC) into the coastal program. Any project or activity in the coastal zone must be conducted in conformance with these statutes, regulations and procedures if it is to be consistent with ACMP.

5 The operating plan DEIS presents a layout of harvest units, road system and log transfer sites, giving location rather than specific site information. While this may be appropriate to an environmental statement, it does not provide the information necessary to conduct a rigorous consistency review. Based on existing precedent, it can be expected that timber harvest and associated activities will periodically cause the introduction of sediment, leachate, bark, and other contaminants into the waters of the State technically in excess of the Alaska Water Quality Standards. The great majority of pollution incidents may be minor in nature. Whether major incidents as have occurred on an irregular basis in the past will continue to occur is dependent on the adoption of improved operating practices.

6 Since the DEIS addresses only the "normal" impacts of timber harvest on water quality, we feel the document should consider the fact that major "accidental" pollution incidents have periodically occurred (such as the sedimentation incident at Kizhuchia Creek) and most likely will continue to occur, and consider ways of avoiding or mitigating such incidents.

7 At a minimum, within the FEIS, probable material sites should also be identified, since material site operation can create substantial effects on water quality and fisheries.

8 The effects timber harvest activities can have on State-owned tidelands must also be considered. Land storage and barging of logs should be discussed in the FEIS as an alternative to the current practice of salt water storage and rafting. We encourage the Forest Service to implement land storage and barging where practicable. The ACMP requires that "onshore storage of logs must be encouraged where compatible with the objectives of the Alaska Coastal Management Program" [6 AAC 80.100 (b)(1)].

As identified in the DEIS, there are three potentially inconsistent log dump sites which are potentially inconsistent with standard 6 AAC 80.100 (c)(2) of ACMP.

9 (1) The log transfer site at Hoonah should be moved as far out on the point as possible and limited to barging only because the shallowness of the site with resultant poor circulation.

10 (2) We are opposed to the recommended log transfer site in No Name Bay. This is not the site recommended by the U.S. Fish and Wildlife Service and the National Marine Fisheries Services in the July 16 letter (see page 109). The recommended site is on the south side of the bay near the mouth. The site recommended in the DEIS is shallow and has no flushing action. In addition to locating the log transfer site on the south side of the bay as originally recommended by the resource agencies, we also recommend barging from this facility.

11 (3) We are adamantly opposed to the log transfer facility in Port Camden as depicted in the DEIS. The Alaska Department of Fish and Game (ADF&G) has repeatedly voiced its objections to a transfer facility in Port Camden since September 1978. In a July 16, 1979, letter the U.S. Fish and Wildlife Service outlined ADF&G objections, as well as theirs and the National Marine ~~Fisheries~~ Fisherie Service's, to

a log transfer facility in Port Camden as you now recommend (see page 109). We understand the Stikine Area is presently doing a re-analysis of this site which will be issued as a addendum to this document. Although we will take the addendum into consideration, our stand against the log transfer site, as depicted in the present document, remains unchanged.

Our opinion of the discussion of the effect of logging practices on fisheries will be presented in more detail in our general comments on the DEIS itself. Briefly, more extensive information which is presented in a consistent fashion would facilitate the States' review in the FEIS of this concern.

As stated above, we stand willing to work with the Forest Service at the earliest practicable time to help in the development of an FEIS which adequately addresses the consistency of the five year plan with ACMP. We will render our formal concurrence upon the receipt of the Forest Service's consistency certification and the material necessary to allow us to concur or not with that certification.

COMMENTS ON THE DEIS ITSELF

12 We will delay any discussion of proposed cutting unit reductions until the next section. However, we must emphasize at this time the awkwardness of commenting on a document in which the Recommended Alternative is subject to major, perhaps massive revision without additional public review. Hence it is not possible for us to concur with the Recommended Alternative since we will be offering our own recommendations on cutting unit reductions. We do recognize and support an alternative which allocates the contractual volume to ALP. The question of community stability as it relates to the socio-economic benefits and impacts of logging operations seems to have played a proper and major role in the selection of some cutting units in the Recommended Alternative, particularly in the selection of units and the log transfer near Hoonah. We are unable to tell from the DEIS what the socio-economic impact might be on the cutting units we shall recommend, but we do wish to stress that the impact of logging operations on adjacent communities should continue to be a factor in the selection of the Recommended Alternative as identified in the FEIS.

13 General Remarks: In general, the layout of the information is well done, and the discussion of effects of various actions accurately presented. (One basic exception to this is the discussion of water quality, see below.) Several types of tables and discussion formats which proved useful in selected areas should be developed and used consistently throughout the document. Not only would this provide a uniform method of comparing alternatives, but the strengths of these tables suggests their use to facilitate discussion on other, less adequately described actions. For example, "Table 8 - Effects of Alternative #2 on Fish Habitat" and similar tables addressing the other alternatives were very helpful in analyzing the impacts upon the fishery resources of each alternative. We were disappointed that similar tables were not developed for the East Kuiu Management area. Table 19 - Effects of Recommended Action on Fish Habitat should definitely be expanded to include the East Kuiu Management Area.

14 The table of "Special or Unique Wildlife Areas" is an important feature of the affected environment discussion. A similar table for fishing values would seem appropriate. The discussion, then, under Effects of Alternatives should be related to these tables.

15 The description of Alternative 2 (page 33) indicates "a relatively high degree of assurance of meeting the Southeast Alaska Area Guide Policies." The description of Alternative 3 refers to the Chatham Area Project Guidelines. Since the Southeast Alaska Area Guide has been adopted as official policy, we feel that each alternative should be weighed against it in consistent fashion. It would then be possible for the public to see which alternative best implements the policies of the Southeast Guide. The bearing of the Chatham Guidelines on the planning process, and relationship to the Southeast Guide, should be explained. This is especially important depending upon how the policies of the Southeast Guide are used to substantiate the consistency of the five-year plan with ACMP as discussed above.

We find no discussion in the DEIS of three significant points required by the regulations of the Council on Environmental Quality:

16 (a) the relationship between local, short-term uses of man's environment and maintenance and enhancement of long-term productivity;

(b) any adverse environmental effects which cannot be avoided; and

(c) any irreversible or irretrievable commitments of resources.

While a separate analysis of each point may not be necessary, discussion of these points should at least be identifiable in the document.

17 There is also a lack of discussion regarding the fact that the climax uneven-aged forests are a non-renewable ecosystem under present rotational periods. Although the value of these ecosystems to wildlife is briefly discussed, additional discussion is needed on the fact that this type of habitat will not be renewed under present management philosophies. This is especially pertinent because there is no adequate explanation of the differences between management actions in LUD III and LUD IV areas.

18 More detailed discussion is needed concerning the difference in the type of management decisions occurring in these areas. This is going to be of major interest to the general public and we feel more effort is required to clarify the situation. Although it may not yet be possible to forecast the entire rotational patterns for each specific LUD III and LUD IV, the types of management options in each type LUD should be explained and discussed as to which options were selected in determining actual cutting units.

The expanded analysis of the ten-year cutting impact near Hoonah is a limited example of how this synthesis of perspectives and options can be useful information.

19 In the same light, we feel additional discussion is necessary on future timber harvest plans for south Kuiu as well. We realize such plans cannot be discussed in much detail due to future uncertainties, but we feel the public should be given some idea of what is in store for southern Kuiu beyond 1986.

20 Water Quality: We feel that the discussion of effects of various alternatives on water quality is disjointed and incomplete. Under "Effects Similar in Alternative 1-3" (page 36), no mention is made of the impact of road building, although this is acknowledged on page 41 to be "the major source of suspended sediment."

The independent discussions of effects on water quality for alternatives 1, 2 and 3 (pages 41-50) are not parallel to one another and provide little basis for comparing those alternatives. On page 41, the discussion of canopy removal probably belongs under "Effects Similar...." If the basic impacts are to be outlined in "Effects Similar...", then we feel the independent discussions for all alternatives should be comparative, based on size of harvest units, miles of road, number of stream crossings, retention zones, and other appropriate factors. The regulations of the Council on Environmental Quality regarding preparation of Environmental Impact Statements require that an EIS devote "substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits." The comparative table regarding fisheries impacts (page 77) can be referenced to avoid overlap with that section.

For Alternatives 4 through 7 (pages 51-55) effects on water resources are not discussed. These, and Alternative 8, should be presented in a form which provides a realistic impression of probable impacts, parallel to the discussion for Alternatives 1, 2 and 3.

The section "Effects of Implementing Recommended Action," pages 73-80, contain no discussion regarding effects on water quality. We feel this is a serious oversight, and should be treated as above.

As previously discussed, an acceptable analysis of the effects of the plan on water quality will be an important aspect of the determination of consistency with ACMP.

21 Economic Issues: It appears that economics was the overriding factor in the selection of the Recommended Alternative. If this is not the case, then a more detailed explanation and additional supportive material concerning development of the recommended action is appropriate. However, even the economic issues involved in selection of the plan and resultant management decisions to implement it should be further clarified. The economic analysis on page 63 of the DEIS is somewhat cursory, and could easily be expanded by an explanation of how the benefit/cost ratios were computed, and how benefits are defined for the purpose of the computations.

22 In this way, the public could relate costs to specific benefits, and offer informed comment on the manner in which the Forest Service has allocated them. For example, if the costs allocated to the mitigation of environmental impacts were distinguishable from those allocated to reduce visual impacts, it could be that the public would prefer greater expenditures on environmental protection and less on visual protection.

23 One of the decision criteria cited on page 30 is that the Forest Service should have the people, time and dollars to implement this plan. The recommended alternative would require $2.6 million per year to implement. What contingency is available in the event that this money is not appropriated by Congress, or conversely if greater amounts are available?

24 In like manner, it is our understanding that the other long-term timber contract in the Tongass National Forest, with Louisiana-Pacific, Ketchikan, has been reinterpreted to include utility lumber volumes in the contractual volume available to the company. What would the implications be on the economic issues and hence on the recommended action if such a renegotiation occurred with ALP?

Roads: It does not appear that there will be much intercommunity road connections during the five-year life of the plan. The State is on record as stating that such connections should be done only in close coordination with policies and plans of the State itself. The issues of community access, development, system maintenance and liability are too complex to be subsumed to Forest Service management needs alone.

25 With respect to the one connection which will occur, between Mount Bether and Hoonah, this road should be constructed to two-lane width and two-way operation. The road cuts across the State land selections. The Forest Service does have a legal right-of-way to access through approved State selections. However, the prospective road construction plans should be submitted to the Alaska Department of Natural Resources (DNR) for approval. The particular road location and design should be discussed with the Southeast District Lands office in DNR and with the Southeastern Regional Planning Manager for the Alaska Department of Transportation and Public Facilities as soon as possible.

26 In order to best determine how compatible Forest Service management needs are with the State's priorities (and to ensure a complete document for ACMP consistency review), all roads which are to remain permanent after cessation of logging operations should be identified. Both long-range and short-term management objectives to be enhanced and perceived social benefits derived by a permanent road system should be fully discussed. This is not to take issue with the Forest Service's mandate to manage National Forest lands, but to allow the State the chance to comprehend and discuss the potential impacts on our own mandates for public services and resource management which permanent road networks will affect.

27 In particular, the environmental and social significance of extending the isthmus road down the east side of Kuiu should be more adequately discussed (page 24). The costs associated with log haul to Rowan Bay and the construction of log transfer sites (page 74, 75) should be explained comparatively. The reasons for not considering a camp on the east side instead of the isthmus road should be detailed.

Specific Comments on the Management Areas:

CHATHAM AREA

WHITESTONE HARBOR: The overall layout of this area is well done. We are pleased that there is no log transfer site in Whitestone Harbor.

28 FRESHWATER BAY: The side branch of lower Freshwater Creek is relatively slow and deep with good coho and trout rearing areas. We recommend a windfirm leave strip adjacent to the stream in Unit 9 to maintain temperature requirements.

TENAKEE INLET: No comment.

CRAB BAY: No comment.

29 CORNER BAY: There is an excessive amount of beach road planned in the Trap Bay Area. This will have a major impact upon wildlife habitat. We recommend elimination of as much of the beach road as possible.

KADASHAN: See below.

KELP BAY: No comment.

STIKINE AREA

All of our comments on the East Kuiu Area have been presented above in other contexts. To briefly repeat: the log transfer facilities in Port Camden and No Name Bay are not acceptable; the road discussion is inadequate; future logging plans should be spelled out if possible; and the data for this area is not as coherently presented as that for the Chatham area.

CUTTING UNIT REDUCTION RECOMMENDATIONS

We again emphasize the awkwardness of commenting on the cutting unit situation in the manner available to us. We feel as if we are caught between the Tongass Land Management Plan (TLMP) and the Southeast Area Guide. On the one hand, the land area in question has been studied at length through TLMP, and on the other, the range of management tools for harvest activities available to the Forest Service is outlined in the Southeast Alaska Area Guide. In other circumstances, comments on unit reductions or specific management options could well be inappropriate in response to a DEIS. Thus, while we wish to express our support for both of these planning processes, we are forced to abandon them this time in order to make our cutting unit reduction recommendations known. However, we will attempt to place our recommendations within the framework outlined by TLMP and the Southeast Guide.

None of the above should be construed to mean that the priorities listed below were casually constructed, or that the State does not have strong interest in the decisions the Forest Service must make. Clarity with regard to the ambiguous situation we are in should not be interpreted as fuzziness with respect to our choices. We wish to emphasize that the choices below are listed in order of importance to the State, and implementation of these out of sequence would not be in concert with our thinking.

30 Kadashan: We recommend not cutting in the Kadashan River watershed during the next five years. In selecting this area as of prime importance for deferral, we are not relying upon any new, significant information. It is based on the well known fact of the Kadashan River's exceptional value as a salmon producing system. We feel that we are totally in keeping with the spirit of TLMP in making this recommendation. Being a LUD III, Kadashan River is available for timber harvest, as one of several land use management options. LUD III's (or LUD IV's) do not have to be logged; rather they are available for a certain type of harvest practices if so selected by the Forest Service. Since the Land Use Designation system was chosen in order to specify the protective status of land areas, and since Kadashan was strongly considered for LUD II status in the TLMP, we think that deferral of Kadashan is strongly called for. Essentially, Kadashan was almost a LUD II, and sound management principles in the present situation would dictate harvest in less sensitive LUD III's and IV's. This does not mean that we are saying that Kadashan should never be entered; its LUD III status indicates that it is available for selected harvest. However, we repeat that our understanding of TLMP is that LUD III status does not mean that the area must be logged, either. Resolution of D-2, and other contingencies such as Native land allocations and subsequent available and or necessary harvest levels will determine the pressure to harvest on LUD III's and IV's; and hence the actual need to harvest on LUD III's and IV's.

The question of deferring Kadashan will, of course, revolve around the Forest Service's ability to protect the fisheries resource while logging is occurring in the drainage. We do not wish to see this question turn into an argument concerning the adequacy of the Forest Service's management tools to mitigate the effects of logging practices on fisheries resources. On a site specific recommendation such as this, we feel that the fisheries values of Kadashan would be best protected by deferral of all cutting for the next five-year period. Since, along with other management tools, the elimination of cutting units in particular are available to the Forest Service due to the identified surplus, we are requesting that you choose deferral rather than mitigating measures in the Kadashan River Valley. Deferral for five years will hopefully allow time to resolve the D-2 question and thereby clarify allowable timber harvest levels and areas on the Tongass Forest. New logging technology or the increased economic viability of existing techniques may result in future logging practices that are superior to those which exist today. Logging in an area as important as Kadashan, if and when it occurs, should be determined by the soundest land use plans and the most appropriate technology available. Deferral rather than harvest at the present time, would seem to best meet these criteria.

Small, initial entries, with multiple small entries over subsequent five-year periods, are the appropriate way to begin harvest in Kadashan during this five-year period only if:

(1) Land use considerations in Congress would eventually subject Kadashan to intensive short-term logging by either ALP or a native corporation.

(2) Sufficient volume of timber could be set aside in the drainage for permanent retention to protect fisheries.

(3) Road access could be provided during this five-year period in a manner which reduces impact and minimizes the length of valley transection.

With this in mind, we also strongly recommend the following measures if the Kadashan drainage is indeed entered during this five-year period. These recommendations are not meant to detract from the State's strong interest in deferring Kadashan. It merely reflects the difficulties we have in giving the Forest Service all of our public comments, both on deferral and possible harvest scenarios at one time.

(1) Road access into the valley is most important. It is our understanding that the final selection of the road has not been made yet. We wonder then why only the beach front road was shown on the Recommended Action map. Either of the other two routes, through the Hook Creek drainage or through an extention of the existing road from Sitkoh Bay, are more preferable than the beach front road. We would strongly support the Sitkoh Bay road extension, especially if it entered the head of the valley only to the extent necessary to reach a minimal amount of timber to be taken out of Kadashan this five years. If it is determined that small, more frequent entries of Kadashan should occur, then we would strongly urge that the Sitkoh Bay road be used with only units at the head of the valley harvested this five years. With the identified impact of roading on water quality and fisheries, it would not seem prudent to argue for small, frequent entries and then to construct the beach front road (or any road, for that matter) through the entire valley at this time.

(2) Again with this in mind, it is particularly crucial that Units 7 and 9 located in the lower valley be deleted, if all lower valley units are not deleted.

(3) We also strongly recommend a windfirm buffer strip adjacent to Kadashan River in Units 20 and 22. The haul road should not transect this leave area.

(4) We recommend deletion of as many of the units along the main river as possible.

In summary, we request no harvest at all within the Kadashan valley this five years, and urge consideration of the above mitigating measures if logging is to be done.

Game Creek Reductions:

31 In our view excessive amounts of the fish habitat management units (FHMU) are scheduled for timber harvest in the Game Creek drainage. We recommend that cutting in this watershed be significantly reduced by eliminating cutting in both the FHMU and the fish habitat sensitive zones (FHSZ). We are not opposed to entering this watershed, but do feel that the elimination of all logging in the FHMU's and FHSZ's would constitute the best management alternative in protecting fish habitat and reducing the timber harvest volume.

Area-wide Reductions:

After concentrating on the Kadashan and Game Creek watersheds, we recommend that area-wide reductions of timber volume occur in the following areas:

32 (1) Sensitive soils areas. Areas where mass wasting or excessive erosion is a potential problem should be eliminated from harvest. In particular we would recommend deletion of Units 3 and 7 in the Freshwater Bay Management Area.

31 (2) Fish Habitat Management Units and Fish Habitat Sensitive Zones. For the same reasons as listed above under the Game Creek discussion, FHMU and FHSZ scheduled for logging should be reduced considerably and preferably eliminated altogether throughout the harvest area forestwide.

33 (3) Critical wildlife areas. Any areas so identified by the Forest Service should be selected for deferral. We would recommend the deletion of Unit 6 at the mouth of Finger Creek in the Crab Bay Management Area.

Kelp Bay Management Area Reductions:

34 Due to the excessive amount of poor quality and low volume units on Catherine Island and Portage Arm, we recommend deleting that entire area from harvest this five years.

East Kuiu Reductions:

We have not specified actual bm numbers in our other priorities. Due to the unreliability of site specific timber estimates, we are quite cautious to do so. Hence, our previous priorities may account for more, less, or all of the timber volume available for reduction. If, according to Forest Service estimates, volume available for reduction still exists after satisfying our other ranked priorities, we request consideration of reducing the harvest impact on East Kuiu.

35 The environmental impact of the road past the isthmus will be considerable. Besides the need for more extensive discussion on the choice of a permanent road system there, we would like to see the harvest impact reduced as well. It would seem most prudent to us to reduce the amount of timber harvested on East Kuiu by eliminating as many of the southernmost units as possible, continuing up the coast-line until the remainder of the 175 MMbm is accounted for.

By eliminating all units beginning at Reid Bay, and continuing north until necessary reduction in volume is attained, we hope to suggest the most economically viable way of reducing road harvest impact on the southern bays. We do not know how far north the Forest Service might have to go before reaching the proper number of bm available for deferral. (Reid Bay only? Alvin Bay? No Name Bay?) We are not suggesting that the road be extended to the southern tip of Reid Bay and that cutting units along the road be reduced. Rather, we hope to see that below a certain point, neither roads nor cutting units would be implemented this five years.

To recap our ranked priorities, then, for cutting unit reduction, we recommend to the Forest Service that:

(1) Kadashan - Entire valley be deferred. (Extraordinary measures taken to ensure small entries and minimal road construction if entered this five years.)

(2) Game Creek - Reduction of impact by elimination of logging on FHMU's and FHSZ's.

(3) Area-wide impact reduction through elimination of as much logging as possible in:

  (a) Soil sensitive areas.

  (b) FHMA's and FHSZ's.

  (c) Critical habitat areas.

(4) Kelp Bay - Elimination of all proposed units.

(5) East Kuiu - Reduction of impact by shortening of road from southernmost point, northward with elimination of adjacent units, until the necessary reduction of 175 MMbm is reached.

We would expect that the FEIS will contain a thorough discussion as to
how the actual reduction decisions were made. Since interested parties
are being contacted for informal input, we would like to know how their
views were weighed, and which parameters were selected to guide the
Forest Service's decision. It is conceivable that the FEIS could contain
information which we do not have at our disposal now which could influence
12 our choice of priorities. Of particular concern to us would be the
impact of these recommendations on adjacent communities. We would be
hesitant to predict their impact, given the extremely unreliable nature
of the site specific bm projections and the lack of information in the
DEIS on this subject.

At least in the case of Tenakee Springs, the dual concerns as expressed
in the DEIS for continued operation of the Corner Bay logging camp and
concern for the fisheries values and visual proximity of the Kadashan
drainage might well be contradictory desires. If the Forest Service
does not follow our recommendations on Kadashan or on our other cutting
unit reductions, based on socio-economic considerations that are not
available to us at this time, we would appreciate a thorough explanation
of the data justifying your decision. Hence we are providing you with
30 what we feel is our most appropriate recommendations based on the information
at hand. Since the Forest Service will be revealing the final decision
in the FEIS, we must, of course, withhold our final judgement until that
time.

If any additional information is needed on any aspect of our response, please do not hesitate to contact us. We suggest that you contact us as soon as possible regarding the incorporation of ACMP into the FEIS, in order to facilitate your development of those issues.

Thank you for the opportunity to comment.

Sincerely,

Jerry L. Madden
State-Federal Coordinator

Attachments

cc: John Sandor, USFS
Elaine Sunde, USFS

Response to letter 50
(State of Alaska)

1. The Forest Service also considers the process for coordination with the State of Alaska to have been highly successful. The on-going exchange of information and viewpoints throughout the planning process has strengthened the plan considerably. The cooperation of the Division of Policy Development and Planning in coordinating this exchange has been invaluable. The Forest Service appreciates, as well, the time and interest of numerous State agency staff members and specialists throughout the planning period. We will continue to encourage this participation in subsequent field reviews and other on-the-ground activities prior to and throughout plan implementation.

2. Chapter Six of the State of Alaska Coastal Management Program details procedures by which Federal agencies can meet the provisions of the Coastal Zone Management Act which directs that:

> Each Federal agency conducting or supporting activities oirectly affecting the coastal zone shall conduct or support those activities in a manner which is, to the maximum extent practicable, consistent with approved state management programs.
>
> Any Federal agency which shall undertake any development project in the coastal zone of a state shall ensure that the project is, to the maximum extent practicable, consistent with approved state management programs.

In developing the Alaska Lumber and Pulp 1981-86 operating plan, coordination has been effected, as follows:

* Notification of the State Coastal Zone Management Program of this planning process and pending action affecting the coastal zone through established A-95 Clearinghouse procedures.

* Coordinating meeting with CZM Staff and other State of Alaska officials July 9, 1979.

* On-going consultation through early planning phases, leading to review of the internal working draft of the environmental impact statement by the CZM staff and other State officials July 16, 1979.

* Review of the DEIS by Coastal Zone Management Staff and other State officials during the period September-December, 1979, resulting in written comments in the form of advisory review (See Section IV-Letter from State of Alaska).

* Meeting January 23, 1980 with State officials, including CZM staff, to discuss these advisory comments and procedures by which consistency would be determined and certified.

As a result of this consultation and coordination, the Interdisciplinary Team has developed a recommended action which is consistent with the State Standards and Guidelines to the maximum extent practicable. (It is understood that this consistency determination is made in lieu of any applicable developed District coastal management programs.)

In determining consistency, the Interdisciplinary Team and Coastal Management staff recognized close correlation between policies in the Southeast Alaska Area Guide and the ACMP Guidelines and Standards. In response to the State's request, the Guide policies which correlate with ACMP guidelines and standards are set forth in response 36 of this letter.

It is considered desirable by the USDA Forest Service and by the State of Alaska that the correlation of these documents be further analyzed. This analysis will be accomplished cooperatively in subsequent planning and review periods.

3. It is also considered desirable by the USDA Forest Service and by the State of Alaska that activities undertaken as a result of the 1981-86 planning process continue to be monitored for consistency with coastal management guidelines and standards.

Most of these activities are brought to the attention of the Coastal Zone Management Program through procedures to obtain necessary permits and licenses. Each such application, as specified in Chapter Six of the Alaska Coastal Management Program, requires separate consistency certification. There may be activities which do not require such review under established procedures. The State of Alaska will notify the Forest Service of any such activities for which it wishes to be notified.

The Forest Service, during implementation of the operating plan, will continue and, where possible, will increase its efforts to involve State officials in on-the-ground interdisciplinary reviews. This effort is intended to:

* Provide continuing information to interested State agencies on projects and activities of relevance to their responsibilities.

* Inform interested State agencies of Forest Service policies and practices which bear upon on-the-ground consistency with ACMP, including the interdisciplinary function in field activities, application of Forest level project guidelines, and implementation of best management practices.

* Supplement the continuing and on-going working consultation between specialists of the Forest Service and State employees, including specialists with the Department of Environmental Conservation, the Department of Fish and Game, and the Department of Natural Resources.

It is expected that this involvement of State officials, both formally as applications for permits/licenses are processed and informally as the State participated in field reviews, will meet information requests which cannot be provided in the FEIS, e.g., identification of material sites.

4. As with ACMP, our defining water quality criteria are those of the State Water Quality Standards as established through PL 92-500. We have every intent of complying with these.

5. We concur with your concern and feel that State and Forest Service need to work together towards achieving these goals. Detailed information pertaining to unit and road locations along with stream crossing sites are on the file at the Area offices and available upon request. As you, infer, this information would be of little value to most readers of the EIS. We anticipate close coordination with the State in our 81-86 operations.

6. We do not anticipate any cases such as Kizhuchia to occur along the 81-86 operations. Much of the planning process has been directed towards ensuring that similar occurrences do not happen, but we also agree it would be wise to coordinate our efforts to explain ways to avoid or mitigate such measures. See also Letter 2 (response 2 and 10).

7. The inability of the Forest Service to meet this request fully was discussed with State of Alaska representatives during a meeting on January 23, 1980. It is understood that coordination with appropriate State representatives will continue through the period in which material sites are identified.

8. See Letters 1 (responses 17 and 20) and 2 (response 6).

9. We have moved the log transfer facility 600-700 feet further out the point (as far as we can without impacting private land.) This has enabled us to get to deeper water and to permit better log storage without impacting tidelands. We have not gone to the end of the point because the log transfer facility and the road leading to it would be visible from Hoonah.

See our paragraph above for a discussion of barging. In addition, if we were to build a barge facility at Hoonah , an additional 300 feet of causeway would have to be built (using 100,000 cubic yards of rock) to get to water deep enough for barging. This would be an additional impact on the marine environment and may imperil circulation.

In considering all of the above, the higher cost, the deer winter range tradeoff, the additional marine impact from the larger causeway, plus the fact that the native timber may not be required to be barged, leads us to believe we have selected the alternative that will be least impacting on the environment and at the same time, most cost effective.

10. A special IDT will investigate the question of location of configuration of an LTS in No Name Bay during the 1980 field season. Involvement of individuals representing the various State or Federal agencies concerned with this situation will be invited and encouraged to participate.

11. See Letter 52, response 44.

12. Cruise data indicating excess planned volume has permitted the interdisciplinary team considerable flexibility to respond extensively to public comment on the DEIS. Adjustments to achieve additional resource protection, better coordination with communities, and timber harvest economics were possible. While these adjustments to the Recommended Alternative, as presented in the DEIS, can be categorized as welcomed by most publics, the Forest Service recognized that on-going participation in the planning process should be encouraged. Extensive contact was made with interested groups and individuals and with various State representatives as the FEIS was being prepared. The FEIS, in working draft stage, was provided to all agencies, organizations, groups, and individuals who responded to the DEIS, for additional comment and review before finalizing for publication.

13. Please refer to response 3 to the Southeast Alaska Conservation Council and to paragraph (2) and (3) to the U.S. Fish and Wildlife Service.

14. A description of fishery resource values in watersheds proposed for timber harvest was deleted from the EIS to promote brevity and ease of reading. Special or unique fisheries values are portrayed to a certain extent, in the fisheries task force report of the Tongass Land Management Plan.

15. This is a good point. We have discussed the bearing of the Chatham Area Project Guidelines on the planning process and the relationship to Southeast Alaska Area Guide in the FEIS as you have suggested. In general, the Chatham Area Project Guidelines provide detailed information pertaining to the achievement of Southeast Alaska Area Guides. They describe how far roads or activities should be from water courses (ideally) to eliminate accelerated sedimentation or how borrow sites should be located and developed to minimize impacts to our resources and contain many other details. Basically, the Guidelines are much more stringent and quantitative than the SEA Guides. The Chatham Guides are updated annually as more information is gained.

16. Discussion of short and long-term uses, unavoidable, irreversible, or irretrievable effects and commitment of resources is provided in discussion of the effects of alternatives. This discussion has been summarized for the benefit of the reader and to better identify the analysis. More extensive discussion of these elements is contained in Specialist's Reports which are available for review.

17. See Letter 1, response 1.

18. Land Use Designations, as established by TLMP, do not represent differing management policies in the sense that more or less resource protection would be provided under different LUD categories.

Proposals for the 1981-86 operating period are based on the management direction provided by TLMP in accordance with the LUD emphasis. Directive TLMP statements provided in the Appendix for Kadashan and East Kuiu illustrate the differing LUD III and LUD IV emphasis. It should again be stressed that resource protection standards in LUD IV are identical to standards for LUD III; the difference is the relative extensiveness of sensitive resource areas requiring protective management. Environmental issues, issues expressed by the public, logistic and management factors all strongly effected the selection.

19. The LUD III and IV areas of East and South Kuiu will continue to be considered for timber harvest to help meet the contract requirements of the ALP long-term contract and will also be considered for independent sale activity. "Life of the sale" planning is now being considered for the ALP long-term sale. Such planning will be conducted by an IDT and will provide direction for timber harvest activity and the management of other forest resources for the remainder of the long-term contract.

20. The discussion of effect on water quality for the various alternatives of the preferred alternative has been expanded considerably in the final EIS. Water quality was strongly considered in the development of the alternatives in the draft EIS, however most of the documentation remained on the unit and road development cards.

21. Economics was an important issue but not the overriding factor in the selection of the preferred alternative. Environmental issues, issues expressed by the public, logistic and management factors all strongly affected the selection.

21. and 22. Economics was not the overriding factor. In fact, the preferred alternative is nearly the least economic of all alternatives considered. The entire economic analysis section has been rewritten.

23. See Letter 3, response 4.

24. See Letter 1, response 14.

25. As presently planned, the road that will be utilized for the connection between Hoonah and Mt. Bether will be constructed as a two-way single lane road, with turnouts. We have been working with the Southeast District Lands Office of the DNR and the Alaska Dept. of Transportation and Public Facilities and will continue to do so. We will submit the road construction plans to you as soon as they are finalized.

26. Generally speaking, the major road systems will be left open and maintained. The smaller road systems such as Salt Lake Bay/15 mile or Finger Creek will be closed and reopened periodically as the need arises. Final decisions have not yet been made on the smaller road systems.

27. In our estimation, the environmental and social significance of extending the main trunk road is adequately discussed. Logical extensions of existing road systems is considered to be an important contributor to efficient and effective forest management. The economics of the various transportation systems are discussed at length in the East Kuiu transportation report. A compelling factor for not considering an additional camp in East Kuiu, minimizing new log transfer sites and transporting logs overland to Rowan Bay was the objections to additional camps and log transfer sites by the Alaska Department of Fish and Game and biologists from other agencies.

28. Your recommendation to incorporate stream temperature protection into the design of Unit 9 in lower Freshwater is appreciated. Such site specific recommendations are valuable input to IDT decision making.

29. This was done in the plan for the same reasons you suggest.

30. We believe your comments on Kadashan are well stated and that we cannot add anything to them concerning the timber management of Kadashan. The decision has been to defer timber harvest in Kadashan during the 81-86 operating period. However, we do propose pre-roading into Kadashan during the late stages of the period. The following represents some of our reasoning.

1) The Corner Bay camp provides substantial support to Tenakee's economy and supports several of its residents. Therefore, we should attempt to maintain the camp.

2) Kadashan is R10's barometer watershed (FALCON project) and considerable investments have been made. The barometer watershed plan calls for roading at least two years in advance of timber harvest.

3) Kadashan is a LUD III and therefore represents part of the total volume needed to meet the 450 MMbm annual yield identified in TLMP.

4. Timber from carry-over plus Trap Bay will significantly reduce the present Corner Bay capabilities (approximately 25% reduction). Pre-roading Kadashan will help alleviate this impact some.

The Forest Service plans include intensifying Kadashan monitoring, allowing at least three years of intensified monitoring to precede pre-roading. In connection with the monitoring plan, harvesting and roading plans will be evaluated. We are anticipating coordination with the State during the evaluation.

See also Letters 1 (response 36), 2A (response 2), 26 (response 1) and 46 (response 2).

31. The fish habitat sensitivity zones were given highest consideration in the deferral process. Refer to Table 19 for some of these.

32. We have identified the potential soil hazards and will be reviewing these during layout. See also Letters 1 (response 3 and 33) and 12 (response 1) for discussions of this process.

33. Significant wildlife deferrals have been incorporated in the preferred alternative. Unit 6 in the Finger Creek was not one of these since it represents thinning of a second growth stand. However, considerable wildlife input will go into the thinning.

34. Our initial efforts to defer timber resulted in deferring Catherine Island and Portage Arm. However, additional carryover on Kuiu forced us to include more 81-86 timber on the Chatham Area. As such, we put Catherine Island and Portage Arm back in the 81-86 area. Even though the volume per acre is low on Catherine Island, it is part of the 450 MMbm potential yield on the Tongass.

35. Deferral of the southern-most units this 5-year period was considered and is displayed as alternatives 6 and 7. The reasons for selecting alternative 4 over alternatives 5, 6, and 7, are listed in the FEIS.

36. In determination of a Recommended Action, the Interdisciplinary Team has developed a plan consistent with both the Southeast Alaska Area Guide and Alaska Coastal Management Program. ACMP Standards 6AAC80.100, 6AAC80.130, 6AAC80.140, and 6AAC80.150 are met through Application of Area Guide policies as detailed on pages 58-137. Relationship of corresponding policies will be explored more extensively in Forest Service Regional Planning and in cooperation with the State ACMP Staff.

51

United Southeast Alaska
GILLNETTERS

P.O. BOX 1186
JUNEAU, ALASKA 99802
"DEDICATED TO THE PROFESSIONAL FISHERMAN"

CHATHAM AREA
JAN 9 '80
Forest Supv
Admin Ofcr
~~Planning~~ ✓
Timber
RL
Engineer
~~Watershed~~

December 31, 1979

Mr. Richard M. Wilson
Forest Supervisor, Chatham Area
Tongass National Forest
P. O. Box 1980
Sitka, AK 99835

Dear Mr. Wilson:

Re: 1981-86 Alaska Lumber and Pulp Timber Operating Plan

Our organization has reviewed the draft EIS and we have the following recommendations:

1 1. Kadashan Creek should not be entered for logging activities this or any operating period. This stream is a major salmon producer in which all gear types benefit. Although gillnetters do not harvest stocks bound for Kadashan Creek we are subject to a certain amount of fish allocation and Kadashan definitely supplies fish in this regard. Harvesting timber in 585 acres of FHMU and 40 acres of FHSU will have an adverse effect on the stream's productivity. Since Kadashan is vital to the northern southeast salmon production it should not be logged.

2 2. The amount of timber harvesting in Game Creek is excessive. Harvesting 57% of the FHMU unit in the first entry seems to violate the amount of first entry harvesting allowed in any of the LUD's as set out in TLUMP. We recommend that the amount of harvesting and roadbuilding be reduced in Game Creek.

3 3. We recommend that no new log dumps be built for timber harvesting on the east side of Kuiu Island. We feel that if long range plans continue to call for an interconnected road system for the island than only one dump site should be utilized. Rowan Bay would serve this

purpose adequately. We also recommend increased use of dry land storage and barging as an alternative to log dumps and marine storage.

It is our understandng that timber management has "discovered" a significant surplus of timber in the long term sale area. We feel that Kadashan Creek can be deferred from this cutting period as a result of the increased volumes found in other areas. Fish Habitat Management Units and Fish Habitat Sensitivity Units should be deleted as must as possible.

4 We would appreciate a complete definition of Fish Habitat Sensitivity Zones. What are the criteria for differentiating an FHMU from a FHSZ? The FHSZ seems to be a justification for the recommended action even though other alternatives have less roads, bridges, culverts, and less acres of FHMU's cut. TLUMP had no mention of FHSZ's so some background on their development should be provided.

5 There needs to be an explanation as to how a LUDIII and IV differ in terms of management. It looks as though they're approached in the same manner.

6 Overall we feel there needs to be more discussion of the fish and wildlife resources in the document and that concepts like LUD's and FHSZ's should be further explained.

We appreciate the extended period of time in which to comment and hope that our comments can be included in the final document.

Sincerely,

Steve Haavig
Steve Haavig
Executive Secretary

SH:aiw

Response To Letter 51
(United Southeast Alaska Gillnetters)

1. The Tongass Land Management Plan, through extensive involvement of the public and several agencies, designated the Kadashan watershed as available for timber harvest. It is our purpose, through employing extensive resource protection measures and through small, multiple entries into the Kadashan watershed, to harvest timber as designated. We recognize the extreme value of the watershed for fisheries and believe we have the means to protect that resource.

See also letters 1 (resp. 36), 2A (resp. 2), 26 (resp. 1), 46 (resp. 2) and 50 (resp. 30).

2. Revisions made to the Recommended Action, as depicted in the final environmental impact statement, reflect a harvest in the Game Creek watershed which is 46 percent within fish habitat management units. The F.H.M.U. designation encompasses a major part of the Game Creek watershed, thereby reflecting the high percentage of cut in that designated area. The F.H.M.U. designation is made in the planning process to ensure on-the-ground review by a fisheries biologist of any activities proposed in those areas. This designation does not necessarily imply a high degree of sensitivity of the habitat to timber harvest activities; but, a potential for timber harvest to affect fisheries values and a potential need for special prescriptive measures to ensure protection.

3. The long-range outlook for East Kuiu Island calls for an interconnected road system which will permit: Rowan Bay to continue to be the only logging camp, maximum flexibility in transportation of logs and the development of a limited number of new log transfer sites. The preferred alternative proposes only one new log transfer site (No Name Bay) which will be located and built according to prescriptions developed by a special IDT. As we move into the future we expect that issues such as availability and cost of petroleum fuels and increased technology relative to handling of forest products (on site chipping, barging, dry land storage, etc.) will require continued flexibility in our long-range planning.

Increasing use of dry-land log storage and barging are being incorporated into the logging industry's operations. Even though dry-land storage and barging represent some additional environmental trade-offs and increased costs, they definitely offer some advantages in many situations. We believe you will see a continuing tend towards use of upland storage and barging as a means of transporting logs.

See also letters 1 (resp. 17 and 20) and 2 (resp. 6) on log handling.

4. Fish Habitat Sensitivity Zones are merely an attempt by our biologists to further refine the Fish Habitat Management Unit concept. The Sensitivity Zone is intended to show those portions of the Management Unit which are most sensitive to timber harvest and related activities. The F.H.S.Z. designation is not used as justification for the Recommended Action. We recognize that Alternative 3 would be the environmentally preferred alternative.

5. Because Land Use Designation (LUD) III areas generally contain higher values for resources other than timber, more management prescriptions will generally be prescribed to protect those resources in the course of timber harvesting. Most of these prescriptions will not be obvious until interdisciplinary teams are able to make on-the-ground inspections.

6. Fish and wildlife resource values and their relationship with the proposed timber harvest plans, are discussed in supplementary reports available through our Sitka and Petersburg offices.

52

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
P. O. BOX 1668 - JUNEAU, ALASKA 99802

December 13, 1979

PLANNING	
Howse	
Belden	
Donnelly	
Fish	
Knight	
Mitchell	
Sunde	✓

Mr. Norman R. Howse
Acting Forest Supervisor
Tongass National Forest - Chatham Area
P.O. Box 1980
Sitka, Alaska 99835

Dear Mr. Howse:

The National Marine Fisheries Service has reviewed the draft environmental impact statement for "The ALP 1981-86 Timber Sale Operating Plan."

In order to provide as timely a response to your request for comments as possible, we are submitting the enclosed comments to you directly, in parallel with their transmittal to our Department of Commerce for incorporation in the Departmental response. These comments represent the views of the National Marine Fisheries Service. The formal, consolidated views of the Department should reach you shortly.

Sincerely,

Fredrik V Thorsteinson

for Harry L. Rietze
Director, Alaska Region

Enclosure

52

UNITED STATES DEPARTMENT OF COMMERCE
The Assistant Secretary for Science and Technology
Washington, D.C. 20230
(202) 377-3xxx 4335

RECEIVED
CHATHAM AREA

JAN 7 '80

Forest Sup	JTS
Admin Ofcr	
Planning	
Timber	
RL	
Engineer	
Watershed	
Wildlife	
Tak W. C.	
Juy W. C.	

Lutz

December 28, 1979

Mr. Richard M. Wilson
Forest Supervisor, Chatham Area
Tongass National Forest
P.O. Box 1980
Sitka, Alaska 99835

Dear Mr. Wilson:

This is in reference to your draft environmental impact statement entitled "The ALP 1981-86 Timber Sale Operating Plan." The enclosed comments from the National Oceanic and Atmospheric Administration's National Marine Fisheries Service are forwarded for your consideration.

Thank you for giving us an opportunity to provide these comments, which we hope will be of assistance to you. We would appreciate receiving five copies of the final statement.

Sincerely,

Sidney R. Galler
Sidney R. Galler
Deputy Assistant Secretary
for Environmental Affairs

Enclosure: Memo from Harry L. Rietze, NOAA/NMFS

Rec'd 12-19-79

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
P. O. Box 1668, Juneau, Alaska 99802

Date : December 13, 1979 **Reply to Attn. of:**

To : PP/EC - R. Lehman

From : for F/AKR - Harry L. Rietze

Subject: Comments on Draft Environmental Impact Statement--The ALP 1981-1986 Timber Sale Operation Plan (U.S. Forest Service) (DEIS 7901.10)

The draft environmental statement for the ALP 1981-1986 Timber Sale Operating Plan that accompanied your memorandum of September 10, 1979, has been received by the National Marine Fisheries Service for review and comment. Comments upon the DEIS are offered below for your consideration.

GENERAL COMMENTS

In our opinion, the present DEIS is inadequate in certain respects, as discussed below. Therefore, we recommend that a revised DEIS be prepared to address our concerns as outlined in the following paragraphs.

Three basic issues that concern the National Marine Fisheries Service are fish stream habitat protection, estuarine habitat protection, and the evaluation of alternatives for this timber sale.

1 Fish stream habitat protection: Management standards and guidelines (Sec. 219.13(iii)(e)) of the National Forest System Land and Resources Management Planning regulations specifically state that no management practices causing detrimental changes in water temperature or chemical composition, blockages of water courses, and deposits of sediment will be permitted within 100 feet of perennial streams, etc., that seriously and adversely affect water conditions or fish habitat. Yet the Recommended Action would cut 41 km (25 miles) along one or both sides of 15 major salmon streams within the Chatham Area alone. This action appears to be in conflict with the Forest Service regulations.

2 Estuarine habitat protection: Estuaries are important areas for the rearing of many species of fish, including the juvenile stages of Pacific salmon. NMFS made SCUBA-assisted IDT surveys, prepared reports on four proposed log transfer sites mentioned in the Recommended Action, and either recommended special log handling procedures or no development at four sites. This fact should be addressed in the revised DEIS.

3 Evaluation of alternatives: Considering the broad geographic and environmental ramifications of the proposed cutting of 521,160 M bm (thousand feet board measure), plus carryover, of timber on Kuiu and Chichagof Islands within the next 5 years, the DEIS seems to be deficient. Two main deficiencies are (1) lack of information concerning the amount of fish habitat that will be affected by logging and (2) the lack of sufficient details concerning protective measures that the Forest Service will use to insure its fish habitat protection guidelines are carried out. For example, in the Chatham Area the total number of salmon streams affected by the Recommended Action is not given. But data are given for 15 of the major salmon streams that would be within logged areas. In the Stikine area, the total number of salmon streams affected by the Recommended Action is not given, and no data are presented for any major or non-major salmon stream that would be within a logged area. Also, the DEIS does not discuss a set of standard mitigation measures that would insure fish habitat protection.

4 We believe an error was made in the calculations reflecting the amount of protection fish habitat allotted by each alternative (Table 18). Due to this error, we believe the Forest Service considered that the Recommended Action would give fish habitat much more protection than it actually does. From our calculations of data presented in this DEIS, Alternative 3 would provide the greatest amount of fish habitat protection of any alternative within the Chatham Area. Alternative 3 is followed distantly by Alternative 2 and the Recommended Action. Alternatives 1 and 8 offer little fish habitat protection for the Chatham Area. Sufficient specific data are not given in the fish section of the four Stikine Area alternatives to permit us to make an informed judgment as to which of its alternatives is the most environmentally acceptable. We question whether this presentation conforms to the practices outlined in CEQ's final regulations for implementing NEPA (Sec. 1502.2(b) and (g) and Sec. 1502.14(b)).

5 The Kadashan watershed is one of the most important pink and chum salmon systems in southeast Alaska. Annually, it provides a large amount of revenue to fishermen of southeast Alaska, especially those in the nearby town of Tenakee Springs. We believe that logging within this watershed has the potential to seriously affect fish habitat within the Kadashan system.

6 In our review of Kadashan's LUD designation by the Tongass Land Management Plan, we found that due to the lack of data the fishery task force gave Kadashan a sportfish value of 4 instead of 5. Due to this fact and the potential for loss of fish production in the system, we suggest that

6 no further logging be done in the Kadashan drainage. We believe this step would be consistent with the new requirements of the National Forest System Land and Resources Management Planning guidelines (Sec. 219.13(iii)(B)).

SPECIFIC COMMENTS

II. AFFECTED ENVIRONMENT
Biological Factors

Wildlife

7 Page 16, par. 3. The whales listed in this paragraph are officially listed as endangered whales pursuant to the Endangered Species Act of 1973. The sperm whale is an open ocean species that seldom enters shallow in-shore waters. Bowhead whales inhabit arctic and subarctic waters, and are primarily associated with pack ice; they would not be expected to occur in the Gulf of Alaska or the protected waters of southeast Alaska. Right whales are extremely rare and have not been sighted in southeast Alaska; however, they are believed to feed in the Gulf of Alaska. Blue whales travel into the Gulf of Alaska and are known to enter shallow, near-shore waters, although they have not been sighted in southeast Alaska. The remaining endangered whales, which include the grey, sei, finback, and humpback, have been sighted in the outer coast or entrance waters of southeast Alaska. The humpback whale may be a year-round inhabitant of many of the inside waters of southeast Alaska.

Fish

8 Page 16, par. 5. Sentence 2 indicates that various marine invertebrates and fishes spawn within the 1981-1986 study areas. We suggest the following wording: "Of the salmonids mentioned above, all except chinook (king) salmon spawn within the 1981-1986 study areas."

9 Page 16, par. 8. We suggest dividing sentence 2 into several sentences to bring out the appropriate relationships. One possible solution might be: "The productive rearing habitat has no barriers to upstream and downstream migration but provides undercut banks, natural debris, and overhanging vegetation for aquatic animals. This condition provides stream nutrients for aquatic plants and aquatic insects and other invertebrates. These plant and animal communities represent the basic food chain required by juvenile salmonids. Undercut banks, pools, boulders, and other irregularities in stream flow also provide shelter for juvenile salmonids."

10 Page 17, par. 5. Although Fish Habitat Management Units, Fish Habitat Sensitivity Zones, Estuarine Habitat Management Units, and Estuarine Habitat Sensitivity Zones are referred to, nothing preceding this section explains their meaning, their importance, or why they were established. Therefore, we suggest that the revised DEIS define these terms and provide appropriate background material.

11 Socioeconomic
Transportation

Page 25, par. 1. This paragraph indicates that NMFS has no problems with any proposed log transfer site or log storage site, except Fish Bay, within the 1981-1986 operating period. According to our records, NMFS met with Forest Service personnel on July 6, 1979, to discuss storage and transfer sites for the Chatham Area only. As a follow-up to this meeting, NMFS wrote the Forest Service on August 3, 1979, and pointed out several sites that did not meet Southeast Alaska Area Guide standards: (1) Hoonah Sound (Finger Point) log transfer site, (2) Trap Bay log transfer site, and (3) Fish Bay intertidal storage area.

On September 21, 1978, NMFS met with Stikine Area Forest Service personnel for the specific purpose of reviewing all of their proposed log transfer and log storage sites for this sale. At that time we acknowledged our preference for Reid or Alvin Bays. We also met with Stikine Area Forest Service personnel to discuss specific log transfer sites; namely, Port Camden and No Name Bay. Both sites are discussed in a report we transmitted to the Forest Service on October 20, 1978. NMFS, in conjunction with U.S. Fish & Wildlife Service, recently completed a report on our 1979 field investigation of these sites. As explained in this report and our previous report, the proposed locations for log transfer sites in No Name Bay and Port Camden do not meet Southeast Alaska Area Guide standards and are not recommended for use by our agency.

III. PLANNING ALTERNATIVES AND RECOMMENDATIONS
Effects of Implementation
Effects Similar in Alternatives 1-3
a. Soils

12 Page 36, par. 5. Due to the significance the new Forest Service National Forest System Land and Resources Management Planning regulations (September 19, 1979) place on land and vegetation within 100 feet of perennial streams, lakes, and other bodies of water, we recommend cancellation of any harvest activity carrying a high risk of siltation to fish habitat.

f. Fish

13 Page 38. Because of its brevity, this section does not cover the full spectrum of consequences timber harvest has on fisheries. In our opinion, a layman reader needs more basic information to adequately understand these consequences. Therefore, we suggest including here information contained in "Effects of Implementing Plan" pages 8-13 contained in Specialist Report: Fisheries (1981-86 Alaska Lumber & Pulp Operating Period), U.S. Forest Service, Chatham Area prepared by Kenneth E. Thompson.

14 Page 38, par. 1. The meaning of the statement that "The harvest of timber poses various degrees of effects on fish habitat and fish production," is unclear. Therefore, we suggest that the revised DEIS specifically describe the potential and expected effects of timber harvesting on fish habitat and production.

15 Page 38, par. 2. It is unclear to what ecosystem "after streamside regrowth occurs" refers. The previous discussion of how stream biota in southeastern Alaska have evolved to the terrestial, as well as to the aquatic, environment implies that the author meant pre-logging conditions.

16 Page 38, par. 3. The role leave strips can play in protecting the stream environment should be fully explained before stating that "Impacts can be expected to be less when only one side of a stream is cut." After this statement, it then would be helpful to explain what protection is lost by cutting trees to the streambank on one side. Next, we suggest that an explanation be provided concerning what protection is lost by cutting trees on both sides of the streambank. The entire discussion could be couched in the philosophy of habitat management, as set forth in the Forest Service National Forest System Land and Resources Management Planning regulations, Section 219.13 (management standards and guidelines).

17 Page 38, par. 4. After the first sentence, we suggest that a thorough, concise explanation of the effects of bank disruption on fish and aquatic invertebrates be presented. This could then be followed by a discussion of the effects of removing riparian vegetation on the basic habitat requirements of southeast Alaska stream biota, as mentioned in the second paragraph. The statement "Induced changes in stream temperatures by removal of riparian vegetation may be detrimental to fish production" also needs further elaboration with respect to how stream temperatures are affected and how stream temperature affects fish production.

18 Page 38, par. 5. We suggest that this section be expanded to explain why high sediment loads reach streams to affect fish, the effects of increased sediment on fish production, and how sediment can be kept out of streams.

Page 38, par. 6. This paragraph contains several statements and implications that should be clarified; we suggest revising it as follows:

> 19 Each area possesses a unique set of situations that must be individually reviewed by an IDT field investigation. Afterwards, the actual degree of protection fish habitat receives depends upon how accurately the instructions of the IDT are implemented. A fisheries biologist will be a member of any IDT that investigates any field situation that might affect fish habitat. That team member will have the authority and responsibility to determine what fish habitat protection is necessary for each situation. Any potentially harmful development will be mitigated to the fullest extent practical, even to the extent, in certain cases, of cancelling development.
>
> All Fish Habitat Sensitivity Zones and Estuarine Sensitivity Zones are already classified as areas where any development could severely harm fish habitat. In these special areas, a fisheries biologist will have the leadership role in the IDT. Any impact that can not be fully mitigated by the IDT will be recommended for no development.

20 Page 38, par. 7. This section should be revised to explain precisely what role the fisheries biologist plays in designating leave strips for streams.

21 Page 38, par. 8. The Forest Service is to be commended for designing programs to manage fish habitat (not just programs designed to protect fish habitat). However, the statement ". . . which . . . compensate for impacts of timber harvest" seems to imply that all impacts of timber harvest are negated by Forest Service management practices. If this is the intended meaning, we suggest the statement be documented.

Effects Similar in Alternatives 4-7

22 Page 40. The DEIS contains little information concerning the effects of four timber harvesting plans on fish habitat, except for generalities about log dumps. Timber harvest Alternatives 4-7 provide a greater variety of road locations, timber harvesting units, and harvest unit designs than Alternatives 1-3. As a result, more information concerning differences between stream impacts should be available for Alternatives 4-7 than Alternatives 1-3. Upon comparing the information available to the public, however, we found that some basic data were presented for Alternatives 1-3 but none were presented for Alternatives 4-7. Neither the fishery specialist report nor the DEIS adequately covers the variability among Alternatives 4-7. Therefore, we suggest displaying tables for Alternatives 4-7, like Tables 7-10 presented for Alternatives 1-3. Following this, we recommend inclusion of a full discussion of fish habitat protection regarding these and other appropriate data.

23 Page 40, par. 4. We do not question the fact that Alternatives 4-7 are less detrimental to fish habitat than the same units were before the Southeast Alaska Area Guide practices were applied by an IDT. But since no data are given, we cannot determine which alternative would provide the best fish habitat protection after the IDT investigations were finished.

24 If detailed qualitative stream surveys are available to the Forest Service, as mentioned, we suggest displaying these data so appropriate judgments can be made by the public.

25 According to the Southeast Alaska Area Guide (p. 80, par. 6), the purpose of the data collected at the allocation level is "to provide sufficient information to permit allocations which recognize the capabilities and sensitivities of major fish habitat areas and the cumulative impacts of multiple land use activities over large areas." The statement that "those areas of most importance for the spawning and rearing of anadromous and resident salmonids were located" does not seem sufficient to provide enough information to meet the requirements of the Southeast Alaska Area Guide. We suggest a thorough review of any data necessary to meet these requirements.

Page 40, par. 6. The role the fisheries biologist plays in the IDT is unclear. (Please refer to our comments for p. 38, pars. 5 and 6.)

26 Page 40, par. 10. We believe that any change in timber harvesting units or road construction could produce a drastic change in the amount of fish protection given an area. Therefore, it does not follow that all effects are similar throughout the alternatives.

Effects of Alternatives
Alternative 2
e. Fish

Page 45, par. 5. Table 4 is missing.

Alternative 3
c. Silviculture

27 Page 48, par. 4. Because blowdown should be the least with Alternative 3, environmental impacts due to blowdown also should be the least.

Alternative 8, for Chatham
e. Fish

28 Page 56, par. 11. Our calculations using data from Tables 7-10 do not compare favorably with data presented in Table 18. Therefore, we suggest checking the data presented in these tables (see our comments for p. 77). The percent of stream cut on both sides is between that of Alternative 2 and the Recommended Action. Also, percentage of streams logged on either one or both sides and percentage of Fish Habitat Management Units cut within the logging area are approximately twice that of Alternative 1, the least protective of the alternatives.

Evaluation of Alternatives

29 Pages 59-62. We believe the Recommended Action should be included in any evaluation of alternatives. The NEPA regulations (Sec. 1502.14(b)) state that substantial treatment of each alternative considered in detail, including the proposed action, should be presented so that reviewers may evaluate the comparative merits of each alternative. Unless the Recommended Action is fully compared with all other alternatives, we do not believe that this requirement is satisfied.

30 Page 59, para. 10. We would prefer that "will be used" instead of "may be used" in the first sentence referring to purchasing roads for recreational purposes. Since increased access for recreationists has been one of the primary public benefits of roads in each alternative, we suggest that this multiple-use objective be emphasized more strongly.

31 Page 59, par. 11. Tables 8 and 9 do not show the reference material alluded to in the text.

32 It is unclear why the Recommended Action should reflect a balance between short-term costs and long-term returns. This is a long-term timber sale, and the Forest Service is mandated to manage the National Forests for multiple use. When one considers a rotation period of 120 years and multiple re-entries, long-term returns seem to be the only rational way to meet this mandate.

33 Page 59, par. 12. Environmental and socioeconomic costs are mentioned but are not explained. Since this criterion is one of only six used to choose the proper alternative, we suggest that a full discussion, including citations and explanatory data, be given.

34 Page 60, par. 2. Mass soil movement and the consequential siltation of fish streams is only one of the detrimental effects of timber harvest on fish habitat. We suggest inclusion of other such effects.

35 Page 60, par. 3. It should be mentioned that economic costs referred to in this section are short-term costs. Since timber harvest results in long-term costs to fish and wildlife resources, we suggest that appropriate studies and data be presented to substantiate an economic analysis based on a 120-year rotation cycle.

36 Page 60, Table 13. This table displays a short-term qualitative impact assessment of each alternative, but it does not display any long-term qualitative impact assessments. Since many of the impacts, uses, and costs will be long term rather than short term, it would seem most important to display the long-term analysis.

36 We believe the meaning of the values displayed in Table 13 is not adequately explained. To make this table useful, we suggest that the revised DEIS explain how the values were derived. We recommend appending all data and references from this section so the reader can clearly understand its meaning.

37 Page 61, par. 6. We suggest that the management direction referred to in this section be fully explained since it is a major criterion. Laws, regulations, and policies related to this direction should be referenced.

38 Page 61, pars. 15 and 16; and page 62, pars. 2 and 4. The statement "Environmental impact issues are satisfactorily resolved" implies that all impacts and mitigation have been thoroughly discussed and that a consensus has been achieved. However, in our opinion, sufficient data have not been given to enable the public to determine the impacts resulting from Alternatives 4-7 (see our comments for p. 40).

Recommended Action

39 Pages 63-72. We were glad to see information about the various management areas included within the Recommended Action's review. We recommend that each alternative be presented equally as thoroughly, so that these comparisons can be made. (This would also meet the requirements of Section 1502.14 of the NEPA regulations.)

40 Development
Cutting Unit Size

Page 64, para. 3. We commend the Forest Service for responding so quickly to its new guidelines, and suggest that the Forest Service also provide an additional section within the revised DEIS that explains what adjustments to the cutting units resulted from adhering to section 219.13(e) of the new guidelines. We suggest the following:

> The new USDA Forest Service final guidelines placed special significance on perennial aquatic habitats. Section 219.13(e) states that "Special attention will be given to land and vegetation for approximately 100 feet from the edges of all perennial streams, lakes, and other bodies of water and will correspond to at least the recognizable area dominated by the riparian vegetation. No management practices causing detrimental changes in water temperature or chemical composition, blockages of water courses, and deposits of sediment will be permitted within these areas which seriously and adversely affect water conditions or fish habitat. Topography, vegetation type, soil, climatic conditions, management objectives, and other factors will be considered in determining what management practices may be performed within these areas or the constraints to be placed upon their performance." This directive places added significance to streamside cover and, therefore, leave strips. To insure proper protection of streams by leave strips, it was necessary to redesign the following cutting units: (the appropriate table).

Description

41 Page 68, par. 2. One of the major criteria for choosing the Hoonah log transfer site was its impact upon marine habitat. In our letter to the Forest Service of August 3, 1979, we addressed this issue, stating that because of the shallowness of the Hoonah log transfer site and because of its poor flushing ability, a large amount of debris would accumulate at this site. This area is a very important rearing area for juvenile salmonids from Gartina and Game Creeks; is an important producer of clams, cockles, and other infauna; and supports a productive community

of epibenthic animals. We believe it should only be used as a log transfer site if logs are not dumped into the water before they are debarked. A second alternative would be barging, if logs do not require dumping during transfer from land.

Page 69, par. 12. The National Marine Fisheries Service also recommended the Salt Lake Bay site as the best alternative.

42 Page 70, par. 3. In our letter to the Forest Service of August 3, 1979, we expressed concern about the proposed log transfer site in Trap Bay. NMFS worked with the U.S. Fish & Wildlife Service to locate suitable alternative sites. The findings from our investigation were sent to the Forest Service after the printing of this DEIS. Basically, they describe why two areas near the mouth of Finger Creek are environmentally unacceptable sites, and why two areas located further north are acceptable sites.

43 We believe that experiments in the use of an underwater net to catch log debris resulting from log dumping could provide a method to keep wastes from accumulating at log transfer sites. NMFS strongly encourages such experiments and offers whatever assistance we can provide in designing and conducting them.

East Kuiu Management Area

44 Page 71, par. 1. NMFS has investigated the log transfer sites recommended for Port Camden and No Name Bay. Neither of these sites meets the requirements of the Southeast Alaska Area Guide. Development there would create significant impacts to the marine environment. 45 However, we recently located an acceptable site on the northeast end of Finn Point in No Name Bay. Our report pertaining to this investigation was recently sent to the Stikine Area office.

Effects of Implementing Recommended Action

46 Pages 73-80. Since impacts to the environment could occur as a result of implementing this action, we recommend that a worst case analysis and an indication of the probability or improbability of its occurrence be included in the revised DEIS (see NEPA regulations, Sec. 1502.22(b)).

a. Soils

47 Page 73, par. 2. It is stated that sedimentation from the recommended alternative should be minimal, depending on stream proximity, soil type, and size of disturbance. According to data provided in Table 19 (p. 78), the Recommended Action would allow 976 acres to be cut in Fish Habitat Sensitivity Zones and would allow from 17 to 19 percent of all streams to be cut on one or both sides within the Chatham Area. Such action would cause short-term and long-term fish habitat disturbances. The resultant effects of sedimentation probably would significantly reduce salmon production in the affected systems. If we can assume that timber harvesting practices within the Stikine Area are similar to those published for the Chatham Area (we have no data to the contrary), salmon production on East Kuiu also would be significantly impacted.

48 Page 73, par. 4. We believe that any logging in Fish Habitat Sensitivity Zones (FHSZ) could result in long-term erosional problems even though rigorous on-ground review has taken place. Nine hundred and seventy-six acres of this habitat would be impacted within the Chatham Area alone. The probability of significant adverse impacts resulting from timber harvesting within numerous sensitive habitat areas appears to be extremely high.

Fisheries

49 Page 76, pars. 3-6. Data we derived from Tables 7, 8, 9, 10, and 19 do not always agree with Table 18. Our calculations (see our comments for page 77, Table 18) revealed several discrepancies in the inter-alternative comparisons made in this section. Therefore we suggest that all data presented in these tables be verified and, where appropriate, adjustments made in the Recommended Action.

Page 76, par. 3. Table 18 gives both the length of stream cut on both sides and the percent of stream cut on both sides as being more in the

50 Recommended Action than Alternative 8. Our calculations (see our comments above) indicated that the percent of stream cut on both sides is slightly lower in the Recommended Action then in Alternative 8. It should be mentioned that the Recommended Action will cut on both sides of streams 3 to 10 times more often than Alternative 3.

Our calculations also indicated that the percent harvested in FHSZ's was slightly higher for the Recommended Action than for Alternative 2, and was more than double the percent harvested in Alternative 3.

It should be noted that the length of stream cut on one or both sides in the Recommended Action is twice that of Alternative 3.

From our calculations, the percent of timber harvested in the Fish Habitat Management Unit (FHMU) is slightly less in Alternative 2 than in the Recommended Action. The Recommended Action harvests approximately 1-1/2 times as much within FHMU's as Alternative 3, not less.

Table 18 lists the percent of timber harvested in FHMU's as being less in the Recommended Action than Alternative 3 (33 to 35%). But it also lists the actual acreage to be harvested in the FHMU's as being more in the Recommended Action, approximately 1-1/2 times, than in Alternative 3.

From data presented in Tables 7-10 and 19, projected impacts from the Recommended Action to fish habitat are less than Alternatives 1 or 8 but more than Alternatives 2 or 3. Data presented in this DEIS indicate that fish habitat impacts will be between 2 and 3 times higher with the Recommended Action than with Alternative 3.

Page 76, par. 4. The Stikine Area did present tabular data for Tables 11 and 12, but it did not present tabular data for Tables 18 or 19.

51 We believe the discussions on "Effects of Implementation" are too generalized for one to make a reasonable judgment as to which alternative is best. The fact that this section describes the role of the fishery biologist in the implementing phase does not relate to which alternative is the best choice. After an alternative is chosen, a fishery biologist can only help ameliorate impacts; he or she cannot stop them from happening. To say that a fishery biologist will be present in the final layout planning stage says nothing about the choices made to help the fishery biologist before this stage; i.e., alternative selection. Therefore, we recommend that more qualitative and quantitative data be made available for comparisons between Alternatives 4-7.

Page 76, par. 7. Our comments relating to Kadashan are consolidated into one response below for page 88, paragraph 4.

52 Page 77, par. 1. We believe that the proposed road adjacent to Salt Lagoon in Seclusion Harbor could cause serious sedimentation problems for the salmon streams that it crosses and for the lagoon that it runs beside. Therefore, we recommend that the timber in this section be accessed by another route.

53 Page 77, Table 18. As stated previously, data presented in Tables 7-10 and 19 do not produce those figures shown in Table 18. (Our calculations from Tables 7-10 and 19 are included below for reference.) One major difference between our calculations and Table 18 is the fact that Table 18 shows the length of roads, number of bridges, acres cut in FHMA, acres cut in FHSZ, and the number of culverts designated for each alternative to be 10 times less than our calculations indicate. It seems to us that these discrepancies preclude the reader from measuring the real impact of these management plans. We suggest verification of all calculations before they are presented in the revised DEIS.

Alternatives	1	2	3	8	RA
Percent Harvested	14.2	10.7	8.3	11.7	11.9
Road Length (km)	167	232.2	212	141	261.6

Stream Length (km)	199.2	200.5	214.4	140.8	214.4
Number of Bridges	520	726	654	440	951
Percent of Stream cut on 2 sides					
Upper Range	10.9	9.1	1.5	7.5	5.7
Lower Range	9.9	8.0	0.4	6.0	4.7
Percent of Streams cut on 1 or both sides					
Upper Range	26.7	22.3	10.5	42.0	19.1
Lower Range	24.4	19.8	8.0	40.4	16.7
Acres Cut in FHMU	5,744	3,893	2,565	5,780	4,906
Percent of Harvest in FHMU	30.4	28.5	23.4	67.3	34.7
Acres Cut in FHSZ	1,669	899	257	781	976
Percent of Harvest in FHSZ	8.3	5.9	2.6	10.2	6.1
Number of Culverts	726	1,012	970	616	1,329

---

54 Page 79, par. 8. This section mentions the fact that road systems do provide increased recreational access, such as sport fishing, into roadless areas. However, it fails to explain what considerations for road use the public will be given. Questions that need further explanation or elaboration are: (1) Will one be allowed to travel any Forest Service-funded road for recreational purposes? (2) Will the Forest Service allow windows of time for recreational vehicle use? (3) Who will be the main users of these roads? (4) How much additional use will these areas get compared to these same areas left in their natural state? (5) What provisions are being made to manage areas of high use potential? Unless these questions are answered, the public will not understand the added recreational opportunity provided by roads.

Fish

55 Page 81, para. 2. Although the proposed monitoring plan has several important objectives, it does not mention one of the most fundamental field-oriented objectives--leave strips. The effectiveness of leave strips around aquatic habitats to protect fish habitat has been studied and well documented in the lower 48 states. The new Forest Service guidelines recognized this fact by placing added significance on the edges of streams, lakes, and other bodies of water.

With regard to leave strips, southeast Alaska has a unique set of problems. River and stream valleys are steeper (V-notched) than in most other areas. Rainfall is much heavier (up to 220 inches per year) in southeast Alaska than most areas in the lower 48. Storms are more frequent than in most areas, and their winds can be channeled into a higher percentage of its forested valleys due to southeast Alaska's unique fiord system.

In the face of these circumstances, the field biologist continually asks one basic question, "How much leave strip should be left around this stream?" Until this question is sufficently answered by research and monitoring studies, the primary tool the fishery biologist has will be much less effective than it should be.

IV. Consultation with Others
Planning Response to Public Comments
Community Concerns

56 Page 88, par. 4. We agree that the Kadashan watershed is highly valuable, both to residents of Tenakee Springs and to the residents throughout northern southeast Alaska. In 1978, Kadashan Creek produced an escapement of 281,958 pink salmon, 46 percent of the total escapement

(614,000) to Alaska Department of Fish and Game's (ADF&G) District 12, which extends from Pt. Howard at the southern tip of the Chilkat Peninsula to Chaik Bay just south of Angoon on Admiralty Island. That figure alone represents its importance to Tenakee Springs and other communities in the area. ADF&G's weir counts from 1969-1979 have shown Kadashan to sustain spawning of an average of 115,756 pink salmon per year and an average of 25,598 chum salmon per year (Table 1). If we assume that the fishermen catch 50 percent of the total number of fish produced, Kadashan's annual revenue to fishermen is $152,950 for pinks and $159,250 for chums (monetary values were derived from NMFS' Fishery Statistics of the United States, ADF&G's Catch and Production Leaflets, and ADF&G's Alaska Commercial Harvest - 1977 Season Review, unpublished).

Table 1.--Kadashan Creek Salmon Escapements (ADF&G Weir Counts, unpublished).

Year	Pinks	Chums
1969	52,429	14,446
1970	151,337	32,183
1971	108,925	65,186
1972	87,552	45,893
1973	103,706	35,781
1974	91,591	27,478
1975	34,455	6,369
1976	64,512	14,612
1977	116,849	18,308
1978	281,958	9,325
1979	180,000	12,000
	$\overline{X}$ = 115,756	$\overline{X}$ = 25,598

It is also a very significant producer of coho salmon, steelhead trout, cutthroat trout, and Dolly Varden char. Studies on juvenile coho salmon and Dolly Varden char indicate that Kadashan has one of the highest densities of rearing fish per surface area within southeast Alaska (U.S. Forest Service and ADF&G, unpublished; Hubartt, 1979). Although no weir counts are available for returning adult coho salmon, 22.8 km (14 miles) of main stream habitat are available to rearing fish. This sustains a large yearly run of coho.

Kadashan's estuarine zone is also quite extensive and very rich. It produces an abundance of Dungeness crab, halibut, scallops, and clams. These resources annually contribute a significant amount of the total food consumed by Tenakee Springs residents. According to the Tongass Land Management Plan (p. 137, par. 5), Tenakee Springs residents rely heavily upon a subsistence lifestyle.

Kadashan's VCU was given a commercial fisheries rating of 5, an estuary rating of 5, and a sportfish rating of 4 in the Tongass Land Management Plan. According to our records, the sportfish rating data did not accurately show the watershed's critical habitat potential or its special watershed classification. Kadashan should qualify for both of these designations and, therefore, should have been rated a 5 instead of a 4.

Within the next 5 years, the Recommended Action would build 31.7 km (19 miles) of roads, 100 bridges, and 140 culverts within Kadashan. Also, 585 acres of Kadashan's Fish Habitat Management Unit would be harvested. Within this acreage, 40 acres of Fish Habitat Sensitivity

Zones are scheduled for harvest, and 13 percent of its streams will be cut on one side. Such construction and harvesting plans within the Kadashan watershed have the potential to seriously degrade its fish production.

Due to Kadashan's importance to commercial fishermen of southeast Alaska, especially Tenakee Springs, and its importance as a subsistence food source for Tenakee Springs residents, we recommend that the Forest Service delete Kadashan from its 1981-1986 timber sale.

National Forest System Land and Resources Management Planning regulations allow for such action (Sec. 219.12(iii)(B)). We believe that deletion of Kadashan from the 1981-1986 timber sale would provide for better multiple-use management and that harvesting of timber in Kadashan could cause substantial adverse impact upon a community in the economic area in which the forest is located.

Map
East Kiui Management Area

57 Recommended Action. This map depicts three clearcuts extending into the proposed Tebenkof Bay Wilderness Area (VCU 405.0). The Tongass Land Management Plan (Pt. 2, p. 85) designated this area a LUD I and stressed that "Management will be generally of a custodial nature." If clearcutting boundary areas within LUD's I and II will occur in the Recommended Action or any other alternative, the reasoning behind such actions should be addressed in the revised DEIS.

CLEARANCE SIGNATURE AND DATE:

F/HP:JRote

Literature Cited

Alaska Department of Fish and Game. 1967-1976. Alaska catch and production. Statistical Leaflets No. 15, 17, 19, 21, 23, 25, 26, 27, 28, and 29.

U.S. Department of Commerce, National Marine Fisheries Service. 1974-1978. Fisheries of the United States. Current Fishery Statistics No. 7400, 7500, 7600, 7700, and 7800.

Hubartt, Dennis. 1979. Study of land use activities and their relationship to sport fish resources in Alaska. Federal Aid in Fish Restoration, Annual Report of Progress, 1978-1979, Project F-9-11,20 (D-I-A). 33 p.

Response To Letter 52
(U.S. Department of Commerce
National Oceanographic and Atmospheric Administration
National Marine Fisheries Service)

1. Many "Fish Habitat Sensitivity Zones" proposed for harvest in the DEIS will be deferred, should on-the-ground surveys confirm their sensitivity to logging (Table 19). Other timber harvest areas encompassing fish habitat will be regulated to comply with NFMA regulations. See also letters 1 (resp. 25) and 15 (resp. 10) addressing 100-foot buffers.

2. The Final Environmental Statement reflects this help. See also Chatham Fisheries Specialist Report.

3. Extensive discussions of fish resources present in the operating areas and their effects analysis were deleted from the EIS to promote brevity and readability. Some of these assessments were retained in

the Chatham Fisheries Specialist Report.

4. Alternative 3 does provide the greatest degree of protection to fish habitat. This is the intended message throughout the EIS. Reasons for the extent of evaluations presented throughout the EIS are stated above (resp. 3).

5 & 6. A recent decision was made not to log Kadashan during the 1981-86 operating period. Only pre-roading will occur during this 5-year period. Making several relatively small entries into Kadashan and implementing the full complement of fish habitat protection measures is consistent with timber management direction in TLMP for LUD III areas. This is currently the management plan for this watershed.

See also letters 1 (resp. 36), 2A (resp. 2), 26 (resp. 1), 46 (resp. 2) and 50 (resp. 30).

7. Your comments concerning our discussion of whales are appreciated. Corrections have been noted in the FEIS.

8. This change has been reflected in the EIS.

9. This change has been reflected in the EIS.

10. "Fish Habitat Management Units" and "Estuarine/Wetland Management Units" are planning tools described in the USDA-Forest Service Southeast Alaska Area Guide. "Sensitivity Zones" were added in the ALP 81-86 planning process to differentiate habitats "influenced" by timber harvest from those more "sensitive" to these activities.

11. Thanks for bringing this error to our attention. The fact that NMFS does not endorse certain log transfer sites selected is stated in the FEIS.

12. We think this has been done for the high risk areas. However, all these areas will again be reviewed before harvesting occurs. Based on the final on-ground review, harvest techniques may be modified or areas deleted from the plan, as necessary to protect the resources. We do not feel that deferring all of these areas to future harvesting provides for the best resource management or protection. See also letters 1 (resp. 25) and 15 (resp. 10).

13. Refer to response 3 of your letter. The Specialists Report is available at the area offices.

14. Quantitative effects of timber harvest on fisheries resources are mostly unknown. Qualitative effects are summarized in the Chatham Fisheries Specialist Report.

15. That is what we meant.

16. The values of riparian leave strips are summarized in the Chatham Fisheries Specialist Report. This information was deleted from the DEIS to promote brevity and readability.

17. (See response to #16.)

18. This is discussed in detail in the Specialists report.

19. Your suggestion to make a fish biologist member to any IDT reviewing proposed activity in areas of fish habitat is consistent with our current policies. This will be especially important where timber harvest activities are proposed in areas where there is a high risk for adverse impacts ("Sensitivity Zones").

20. Interdisciplinary Teams and the role of their members are discussed in the Southeast Alaska Area Guide.

21. Forest Service fish habitat enhancement programs do not imply "mitigation." These enhancement efforts are merely opportunities to manage Forest resources in a multiple-use manner.

22. The entire first entry, consisting of approximately 240 MMbm, was scrutinized by the IDT on aerial photographs and in the field. Using a system of record cards for each harvest unit, the IDT recorded their conclusions as to potential environmental impacts and their prescriptions for avoiding or mitigating such impacts. This is the essence of IDT activity, to collectively develop a satisfactory solution to potential environmental impacts. The records of this IDT activity are complex but quite understandable and are available for review by the public at the Stikine Area Forest Supervisor's office.

The alternatives that were then developed by the IDT were variations of a system providing necessary new timber volume to meet contract obligations from a 240 mmbf first entry. Actually only approximately 88 mmbf of new timber volume were selected via a system of priorities and it appears that it will be sufficient.

23. Please refer to response 22, relative to your letter and response 3 to the letter from the Southeast Alaska Conservation Council.

24. The detailed qualitative stream survey information is available for review in the Stikine Area Forest Supervisor's office. It was not considered appropriate or necessary to include this information in the EIS due to its length and technical nature.

25 & 26. These areas have been revised in the final EIS.

27. Blowdown is expected to be the highest in Alternative 3 and therefore impacts will be the highest.

28. Errors noted on Table 18 were corrected in the FEIS.

29. A comparison is referenced in the FEIS.

30. Recreational use of these roads is at the discretion of the user. Since we cannot control the use, "may be used" is more appropriate than is "will be used."

31. These were editorial errors which have been corrected in the FEIS.

32. This simply means that there was a trade-off between costs to the public today versus the benefits received by future generations. It is felt that we presently should not bear the whole burden for the products of future generations but that we should bear some while leaving some for them. This still meets and is consistent with the multiple use mandate.

33. This entire section has been rewritten.

34. Other such effects are discussed in the Effects section. It was not the intent to elaborate on these here, but merely to present examples.

35. As mentioned above, this entire section has been rewritten. The economic costs and benefits are both short-term and long-term (100 year rotation). As planned, the short- and long-term impacts on fish are expected to be minimal.

36. This table has been dropped from the FEIS.

37. As pointed out in Section I of the EIS, there are more than 140 Federal Laws defining Forest Service Authorities. The EIS also directs the reader to the Southeast Alaska Area Guide for a discussion of this.

38. Please refer to response 22 of your letter and response 3 to letter 2.

39. It is our belief that the various alternatives were presented adequately permitting the necessary comparisons. Although it may appear that the preferred alternative is presented in a more thorough manner it should be understood that the preferred alternative is a combination of parts of Alternatives 1, 2, 3, 8, and all of Alternative 4. Such a combination was a logical extension of the planning process deserving adequate presentation.

40. Many potential cutting units in riparian areas will not be included in the timber cruise volume and will be harvested only if field reviews determine it is safe to do so. See also letters 1 (resp. 25) and 15 (resp. 10).

41a. We recognize that there is an impact on the marine environment at Hoonah; however, it is the best site you and we were able to find. See letters 1 (resp. 17 and 20) and 2 (resp. 6).

In the case of the Hoonah LTS, specifically, it would take an additional 300 ± feet of causeway and a higher dump face to facilitate barging. This added causeway would require an additional 100,000 cubic yards of rock fill. See also letter 50 (resp. 9).

41b. We realize that and have included it in the FEIS.

42. The LTS at Finger Creek was selected to minimize exposure to severe weather conditions in Peril Strait. The Trap Bay LTS was selected to minimize impacts to the estuary, a site recommended by NMFS.

43. We appreciate your offer to assist with designing an underwater net to experimentally catch log debris at a log transfer site.

44. The proposed log transfer facility at Port Camden has been deferred to the future for several reasons: 1) The decrease in new timber volume required permitted deferral of harvest activity in most of the Keku peninsula. 2) It appeared that changing technology in forest products transportation may soon provide transportation methods that would be more compatible with fisheries and estuarine protection requirements (on site chipping, barging of chips and sawlogs, etc.). 3) There was a lack of consensus among the various state and federal agencies as to the configuration and location of a conventional LTS. This issue is discussed in the final EIS.

45. Your report relative to investigations of log transfer site location in No Name Bay will be considered and your input will be solicited when a special IDT to deal with this issue is assembled for the 1980 field season.

46. See letter 1, response 9.

47. Subsequent to publishing the DEIS, many sensitive fish habitat areas have been designated for thorough review prior to considering them for harvest. Timber volumes represented in the FHSZ will not be incorporated in the initial rate redetermination. Only those areas determined not to be in "high-risk" "Sensitive" zones by on-the-ground surveys will be harvested.

48. Because of additional protective status given to FHSZ's recently, the percentages of streams cut on one or both sides will change significantly in the Preferred Alternative. See also letters 2 (resp. 2 and 10), 15 (resp. 3, 7 and 10) and 1 (resp. 25).

49 & 50. Table 18 has been revised in the FEIS.

51. See letter 2, response 3.

52. Considerable photographic analysis and field investigation by the IDT revealed that the road route adjacent to Salt Lagoon was the only feasible route for an interconnected trunk road system to access the southern area of the management unit. Considerable IDT effort was focused on development of prescriptive measures to prevent sedimentation of streams draining to Salt Lagoon.

53. Table 18 has been revised in the FEIS.

54. The recreation opportunities recognized on Kuiu Island are definitely potential and will remain so after a connecting road is built. We cannot answer your questions in detail at this time. We can say, however, that as recreation demands become apparent we will be in a position to respond and provide for them. See also letters 15 (resp. 21) and 40 (resp. 3).

55. "Leave Strips" along streams will be monitored for windfirmness, our major concern regarding their use. Dimensions of future streamside leave strips will be adjusted based on the results of this monitoring. Other, more complex relationships are not scheduled for study. See also letters 1 (resp. 25) and 15 (resp. 10).

56. Because of Kadashan's outstanding timber and other resource values, TLMP designated the watershed as LUD III. Harvesting Kadashan in small multiple entries, with a full complement of environmental protection measures, is consistent with our LUD III management standards.

The interdisciplinary team recognizes the high resource values of Kadashan. These values were also recognized in TLMP and management direction developed in keeping with these values. Kadashan has been deferred from the Preferred Alternative for the 1981-86 period. At such time that harvest begins in this watershed, management will meet this TLMP direction. Road development during this period will, similarly, conform to this direction.

It might be interesting to note that using your type of analysis the timber in Kadashan drainage is worth nearly $1 million per year to the loggers (3.8 MMbf/year x $341.41/M pondlog values). This compares with $312,200 per year from chums and pinks plus an undetermined amount for silvers.

The point here isn't timber value or fish value. Under multiple-use we can have both, and both resources can be managed into perpetuity.

See also letters 1 (resp. 36), 2A (resp. 2), 26 (resp. 1), 46 (resp. 2) and 50 (resp. 30).

57. Unit 417-3 (priority #64) appears to extend into the Tebenkof Bay area. This unit has been deferred to the future to permit resolution of a wilderness area boundary locational error. The boundary was established during the TLMP process and was located using aerial photographs. Subsequent field investigation indicates that the actual drainage "break" is several hundred feet to the northwest (slightly beyond the proposed harvest unit boundary). No harvest unit will be extended into a LUD I or II area. The apparent incursions of units 418-3 and 418-4 are due to a graphic error in the printing of the map. The units as planned do not penetrate the LUD I area.

SEES - Sitka

53

DTm

United States Department of the Interior

OFFICE OF THE SECRETARY
P. O. Box 120
Anchorage, Alaska 99510

RECEIVED
Juneau, Alaska
DEC 26 1979
BSF&W

RECEIVED
DEC 1 1979
Area Office Ecological Services
Anchorage, Alaska

ER-79/875

November 29, 1979

12/5

12/10

12/6

LGW

U. S. Department of Agriculture
Forest Service
Tongass National Forest
Chatham Area
P. O. Box 1980
Sitka, Alaska 99835

Gentlemen:

In response to your recent request we have reviewed the Draft Environmental Impact Statement for the Timber Sale Operating Plan for the Chatham and Stikine Areas of the Tongass National Forest, Southeast Alaska, and offer the following comments for your consideration.

General Comments

1 We believe that the interdisciplinary team planning efforts and interagency cooperation related to the preparation of the draft statement has minimized and mitigated many of the potential adverse impacts to fish and wildlife resources. However, we believe the statement should be expanded to better describe expected project impacts. Although there are many references to "other studies" and "potential impacts," there are few direct statements regarding the specific impacts of the proposed actions. Clearcutting 28,000 acres of forest will reduce carrying capacity of the land for important wildlife species such

as Sitka blacktail deer, bear and marten. Stream disturbance and siltation resulting from construction of 369 kilometers of road and installation of hundreds of culverts will likewise degrade and reduce fish spawning and rearing habitat.

2 It is my understanding that the Fish and Wildlife Service (FWS) along with the National Marine Fisheries Service (NMFS) and the Alaska Department of Fish and Game (ADF&G) have expressed, through meetings with your agency, concerns for the impacts to the estuarine environment in the development of conventional log transfer sites (LTS). Prior coordination (see page 109 of the statement) specifically addressed this concern for the LTS located in Port Camden and No Name Bay. In brief, it was recommended that in lieu of constructing a new LTS at Port Camden that the existing LTS at Rowan Bay be utilized, and that the site at No Name Bay proposed to be located at the upper end of the bay be located instead at the mouth in deeper water. We suggest that the statement be expanded to give a more detailed analysis of the No Name Bay LTS.

3 In addition, as a result of these concerns, you are conducting in the Stikine Area an extensive Environmental Assessment of the Port Camden LTS proposal. On completion of this assessment, further comments will be provided to you by our Fish and Wildlife Service.

4 The National Forest Management Act regulations state that special attention buffer strips will be provided for 100 feet at the edges of all perennial streams. The recommended action proposes to cut along 36 kilometers of one or both sides of streams in the Chatham Area. The final statement should discuss this apparent discrepancy.

5 We believe that cultural resources that are of an archeological nature are dealt with in an appropriate manner in the draft statement. It would be desirable in the final statement however to better document the effects of the the proposed project will have on traditional lifeways within the areas.

Specific Comments

6 Page 14, first paragraph following Table 1 - It has been our experience that shrubs and bushes are particularly dense in logged areas and that old-growth stands are comparatively open due to the canopy shading the forest floor.

7 Page 16, third paragraph - The referenced species of whales should be listed as "endangered."

8 Page 68, second paragraph - The Fish and Wildlife Service planning aid report to you (see page 109) stated that the proposed Hoonah LTS does not meet their guidelines. It is anticipated that there will be considerable and long-lasting adverse impacts to the affected cove. However, since alternative locations do not appear feasible, it is recommended that you address mitigation alternatives which consider barging operations in lieu of a traditional LTS facility. We believe that many of the impacts to the marine ecosystem could be avoided if traditional water transfer and transport of logs were phased out and replaced by barging operations.

9 Page 70, third paragraph - The reference to the LTS at Finger Creek is in error. The proposed LTS at Hoonah is the site that would require mitigative measures.

Page 76, second paragraph - The Forest Service specialist reports (Chatham Area) on the impacts to wildlife were not available to us during the draft statement review period. When they become available further comments will be provided to you by the Fish and Wildlife Service.

10 Page 77 - Under the East Kuiu Island Management Area are listed several streams which require "further fisheries input." We suggest that the ADF&G stream catalog numbers be shown for each stream. The smaller uncatalogued streams which lie within the proposed timber harvest units should also be displayed on a map.

11 Page 80, second paragraph - We suggest that the final statement contain a discussion of the possibility of providing recreational access to Kuiu Island by the construction of a pile-supported access ramp and boat moorage facility located adjacent to a proposed road in addition to access via a LTS.

12 Page 81, first paragraph under Wildlife - The monitoring plan for determining impacts of small clearcuts on carrying capacity for deer should specify length of time data gathering will be required prior to cutting. Because of the cyclic nature of Southeast Alaska deer populations, we would suggest a four or five year pre-project population study.

13 Page 109 - The planning aid letters reproduced in the statement are but two of many documents submitted by the Fish and Wildlife Service. Most of these reports are summarized in their annual report, Southeast Alaska Pre-project Investigations, 1978, FWS document, Juneau, Alaska. We suggest that it be referenced in the final statement since the report is considerably more inclusive than the two letters.

14 Page 113, Definition of Wetlands - We suggest a more comprehensive definition of wetlands be used in the statement. For example, Executive Order 11990 defines wetlands as, "those areas that are inundated by surface or ground water with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction."

We appreciate the opportunity to comment on the draft statement.

Sincerely,

Paul Gates

Paul D. Gates
Regional Environmental Officer-Alaska

Response to Letter 53
USDI - Fish and Wildlife Service

1) We believe we have addressed the specific impacts as specifically as possible. In cases where we could identify a specific impact during the planning process, we modified the plan to minimize or avoid that impact. In these cases, we identify what impacts may occur and the probable consequence of the impacts. Our best management practices are based on results from other studies and knowledge of potential impacts. These tell us what has been observed and documented under a given condition, but we recognize that site specifics must enter into the evaluation as well as effects various mitigating measures can have. Many of the items you are concerned about are addressed in the Tongass Land Management Plan.

2) and 3) The development of an LTS in Port Camden has been deferred to the future (please refer to the Final EIS for detailed information). The proposed LTS in No Name Bay will be investigated by a special IDT during the 1980 field season. This IDT will include representatives of the various State and Federal agencies expressing concerns over the location and configuration of such LTS.

4) See letters 1 (response 25), 15 (response 10), and 52 (response 48).

5) This is covered in the FEIS.

6) You are correct here. Relatively speaking, brush is denser in recently logged areas than in forested areas.

7) We have rewritten this section.

8) In selecting the Hoonah LTF over Whitestone, we are complying with the recommendation of the USDI Fish and Wildlife Service.

As you mentioned, barging is an alternative that would reduce impact on the marine environment. However, barging is much more expensive (2 to 3 times as expensive) and is a mixed blessing at best. Although it may reduce the impact on the marine environment, it impacts deer winter range by requiring more dry land storage. The tradeoff is the impact on the marine environment vs. impact on deer winter range.

We expect that we will continue to see more dry land storage of logs and increased barging, however in light of the tradeoffs that would have to be made; it is unlikely we will see marine log storage and transfer eliminated. See also letters 1 (responses 17 and 20) and 2, (response 6).

(9) Thank you; we have corrected this.

10) The information you mention here is available from fisheries biologists in the Stikine Area, Forest Supervisor's office.

11) Recreational use patterns on Kuiu Island are not yet emerging. The Forest Service does not consider it necessary to build a facility as you suggest at this time. Recreational use trends and demands will be monitored over time and will be provided for.

12) These units have been deleted.

13) This has been done.

14) Some of us understand your concern. Wetlands, as used here, refer to a landtype nomenclature. We have added a definition consistent with Executive Order 11990 to the Glossary.

54

RECEIVED
JAN 25 1980
CHATHAM AREA

ALASKA TROLLERS ASSOCIATION

P.O. BOX 5825
KETCHIKAN, ALASKA 99901

January 23, 1980

Forest Supervisor, Chatham Area
Tongass National Forest
Box 1980
Sitka, Alaska, 99835

Dear Forest Supervisor:

Although these comments are late, we request they be included in the Final E.I.S. on the Alaska Lumber and Pulp Company '81-'86 Five year Operating Plan. We understand that new information and a number of changes have occurred in the data base since publication of the Draft. Part of our comments speak to these changes.

Our concerns are with the salmon habitat that would be affected by the proposed logging and roading. Any reductions in salmon escapement result in loss of fishing time and direct loss of income to us as commercial fishermen. We are particularly concerned about the important coho streams on east Kuiu Island and Kadashan Creek.

Because of its high commercial fishery values, we request that the Kada-
shand Creek watershed not be included in this five year plan. The potential
annual value to commercial fishermen from coho alone from Kadashan is
$180,000. It was rated 5, the highest rating for commercial fishery and
estuary values in the Tongass Land Use Management Plan. Areas with ex-
tremely high fishery values such as Kadashan should be logged and roaded
only after other less sensitive areas. As new logging technology and
1 more sophisticated practices are used, impacts could be substantially less
from future logging practices. The statement by National Marine Fisheries
Service that "such contruction and harvesting plans within the Kadashan
watershed have the potential to seriously degrade its fish production"
translates into a potentially serious loss of income to commercial fisher-
men. Since it appears there will be a large excess of volume over and above
contractual requirements with this plan, the Forest Service has the oppor-
tunity to delete this valuable and sensitive area from the plan. We
urge you to do so.

The discussion of the impacts on fisheries from logging and roading on
2 east Kuiu Island is deficient. The differencein impacts from 75 miles of
road in alternative 5 and 62 miles of road in alternative 6 are substantial.
The difference in impacts should be calculated. Even if the effects of

Page 2
Forest Supervisor, Chatham Area
January 23, 1980

alternatives 4-7 for the Stikine Area were similar, then the Forest Service would have failed to provide the public with real alternatives.

Since information on excess timber volume became known after the Draft E.I.S. , we request that the Forest Service issue another draft deleting Kadashan Creek and more fully delineating the impacts and differences between alternatives 4-7. Thank you for the opportunity to comment.

Sincerely yours,

Sharon Newsome

Sharon Newsome
Executive Secretary

cc: John Sandor

Response To Letter 54 (Alaska Trollers Association)

1. A recent decision was made not to include timber harvest in Kadashan in the Preferred Alternative for 1981-86. Only road construction is to occur in this watershed during the "81-86" operating period. When Kadashan is logged, most likely to begin in the 1981-86 operating period, all resource protection standards for L.U.D. III areas will be implemented. See also letters 1 (response 36), 2A (response 2), 26 (response 1), 46 (response 2) and 50 (response 30).

2. See letter 12 (response 7).

VI. Index

- Air Quality
  - Characteristics -- 10
  - Effects on -- 29
  - Regulations & Guidelines -- 72
- Alaska, State of
  - Department of Commerce and Economic Development -- 65
  - Department of Community & Regional Affairs -- 17, 65, 76
  - Department of Education -- 77
  - Department of Environmental Conservation -- 10, 39, 65, 73
  - Department of Fish & Game -- 11, 21, 38, 39, 53, 62, 65, 72, 74
  - Department of Natural Resources -- 65, 73
  - Department of Transportation & Public Facilities -- 65
  - Division of Coastal Management -- 39, 48, 65
  - Division of Policy Planning & Development -- 65
  - Historic Preservation Officer -- 65
  - University of Alaska -- 17, 65, 76
- Alaska Trollers' Association -- 66
- Alternatives
  - Assumptions -- 20-21
  - Description -- 24-28
  - Development -- 21-22
  - Effects of Implementation -- 28, 53
  - Evaluation -- 42
  - Alternative 1 -- 24, 32-35, 44
  - Alternative 2 -- 25, 35, 44
  - Alternative 3 -- 25, 35-37, 44
  - Alternative 4 -- 26, 37-39, 44
  - Alternative 5 -- 26, 39-40, 44
  - Alternative 6 -- 26, 40-41, 44
  - Alternative 7 -- 27, 41, 44
  - Alternative 8 -- 27-28, 41, 42, 44
  - No Action -- 23-24
  - Preferred Alternative
    - Description -- 28, 49-53
    - Development -- 44-47
    - Effects of -- 42, 53-60
    - Analysis of -- 46-49
- Angoon -- 9, 11, 16, 65
- Archeological Sites -- See Cultural Resources
- Capability & Suitability -- 6
- Chatham Area Project Guidelines -- 21
- Climate -- 8
- Commercial Forest Land (CFL) -- 3, 4, 12,47
  - See Also Timber
- Communities -- See Individual Communities
  - See Also Socioeconomic Factors
- Contract, Long Term -- 2, 4, 5, 6, 20, 43
- Corner Bay Logging Camp -- 16, 51, 56, 66, 70
- Crab Bay Logging Camp -- 17
- Cultural Resource
  - Characteristics -- 9
  - Effects on -- 32
  - Monitoring -- 61
  - Regulations and Guidelines -- 75-76
- Decision Notice, Port Camden LTS -- 80
- Economic Factors
  - Analysis -- 47-48
  - Cost/Benefit Factors -- 43-44
  - Investments Required -- 43
  - See Also Socioeconomic Factors
- Elfin Cove --75
- Estuaries -- Also see Flood plains and wetlands
- Evaluation Criteria -- 20
- Federal Agencies
  - Advisotry Council of Historic Preservation -- 65
  - Bureau of Indian Affairs -- 47
  - Bureau of Mines -- 65
  - Environmental Protection Agency -- 65, 73
  - Federal Energy Administration -- 65
  - Federal Highway Administration -- 65
  - Health, Education, & Welfare, Dept. of -- 65
  - Housing & Urban Development, Dept. of -- 65
  - National Marine Fisheries Service -- 21, 38, 39, 49, 51, 52, 53, 60, 62, 65, 72
  - Treasury, Dept. of -- 65
  - U.S. Army Corps of Engineers -- 6, 38, 39, 65
  - U.S. Coast Guard, Office of Marine Environment -- 65
  - U.S. Fish & Wildlife Service -- 21, 38, 39, 40, 49, 51, 53, 62, 65, 72, 74
- Field Forms -- 21, 31, 46, 58, 61-62, 93-94
- Fire Management -- 10
- Fish
  - Effects on -- 31, 33-34, 35, 36-37, 38-39, 40, 41-42, 57
  - Mitigation & Monitoring -- 60
  - Regulations & Guidelines -- 74
  - Resources -- 13
  - Sport Fish - See Recreation
  - Threatened and Endangered -- 13
- Floodplains and Wetlands -- 10, 13, 38, 60
  - See Also Soils
  - See Also Water Resource
- Glossary -- 80-87
- Goldbelt, Inc. -- 66
- Gustavus -- 16
- Hoonah -- 6, 9, 11, 14, 16, 49, 50, 64, 66, 75, 76-78
- Huna Totem Native Corp. -- 16, 50, 65, 76
- Hydroelectric Power Sites -- 11, 52
- Interdisciplinary Approach Process -- 3, 20-22
  - Team Membership -- 72
- Issues -- 5-6, 20, 64, 66
- Juneau -- 16, 65
- Kake -- 11, 15, 16, 17, 65
- Kennel Creek Logging Camp -- 16, 50
- Ketchikan -- 47
- Kootznoowoo, Inc. -- 66
- Kupreanof -- 16
- Land Use Designation (LUD) -- 3, 6
  - See Also Alternatives, Description
- Log Accountability -- 61
  - Storage - See Transportation System
  - Transport - See Transportation System
- Logging Systems
  - A-Frame -- 24
  - Skyline -- 20, 41, 46, 54, 60
- Management Area -- 5
  - See Resources, Description
  - See Also Alternatives, Description
- Monitoring Requirements -- 60-62
  - See Also Individual Resources
- Mount Bether -- 16, 50, 64, 66, 76-77
- Native Corporations -- See Individual Corporation
- Ownerships, Land -- 11
  - See Also Native Corporations
- Petersburg -- 16, 65
- Physical Factors -- 8
- Point Baker-Port Protection -- 16
- Port Alexander -- 16, 64
- Public Involvement -- 43-44, 64-66
- RARE II -- 10, 64, 67
- Recreation
  - Effects on -- 31-32, 34-35, 39, 40-42
  - Resources -- 13-14
  - Mitigation and Monitoring -- 74-75
- Retention
  - Visual Resources -- 75
  - Wildlife -- 30, 54-57
- Roads -- See Transportation System
- Rowan Bay Loggin Camp -- 16, 38, 52, 58

Scoping
  See Issues
  See Also Public Involvement
Sealaska Corporation -- 65
Sierra Club -- 66
Silviculture Characteristics
  Effects on -- 29-30, 33, 35, 37, 38, 39, 40, 41, 53-54
  Mitigation & Monitoring -- 61
  Regulations & Guidelines -- 73
  See Also Timber
Sitka -- 6, 9, 10, 16, 47, 65, 66
Sitka Conservation Society -- 75
Soils
  Characteristics -- 8
  Effects on -- 28, 32, 35, 37, 39, 40, 41, 53
  Mitigation & Monitoring -- 60
  Regulations & Guidelines -- 72-73
Socioeconomic Factors
  Description -- 6, 17
  Effects on -- 50, 66, 76-78
  Employment -- 47-48, 78
  Regulations & Guidelines -- 75-76
  See Also Communities
  See Also Economic Factors
Southeast Alaska Area Guide -- 2, 3, 5, 9, 20, 64
Southeast Alaska Conservation Council -- 65, 66
Southeast Alaska Seine Boat Owners -- 66
Special Use Permits -- 11
Subsistence -- See Socioeconomic Factors
Suitability -- See Capability
Tenakee Springs -- 6, 11, 14, 16, 17, 64, 66, 75, 76
Timber
  Marginal -- 47
  See Also Vegetation
  See Also Silviculture
  See Also Commercial Forest Land (CFL)
Tlingit and Haida Central Council -- 76
Tongass Land Management Plan -- 3, 5, 10, 12, 13, 20, 21, 31, 42, 48, 64, 66, 70-71
Transportation System
  Description -- 11, 48-49
  Log Transfer Sites, Proposed -- 16, 62
  Logging Camps, Proposed -- 16
  Management Activities Accessed -- 48-49
  Advanced Roading -- 49, 51, 56
  See Also Alternatives, Description and Effects
United Fishermen of Alaska -- 66
Vegetation
  Resources -- 12, 30
  Threatened or Endangered -- 12
  See Also Timber
Visual Resource
  Characteristics -- 9
  Effects on -- 31, 34-35, 37, 39, 40, 41-42, 57-58
  Mitigation and Monitoring -- 61, 74-75
  See Also Retention, Visual
Water
  Effects on -- 29, 32, 35, 37-38, 39, 40, 41, 53
  Mitigation & Monitoring -- 51, 51, 60
  Resource -- 10
  Regulations and Guidelines -- 72-73
  See Also Flood Plains and Wetlands Use -- 11
Wilderness -- 5, 10
Wildlife
  Effects on -- 30, 33, 35, 37, 38, 39, 40, 41, 54-57
  Mitigation and Monitoring -- 61
  Regulations and Guidelines -- 73-74
  Resources -- 12
  Threatened and Endangered -- 12-13, 74
  See Also Retention, Wildlife
Wrangell -- 6, 10, 47, 65, 66

☆GPO—697-824